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BEE JOURNAL.

EDITED BY W. F. CLARKE.

"The greatest enemy of the Bee, is the ignorance of man,"—DZIERZON.

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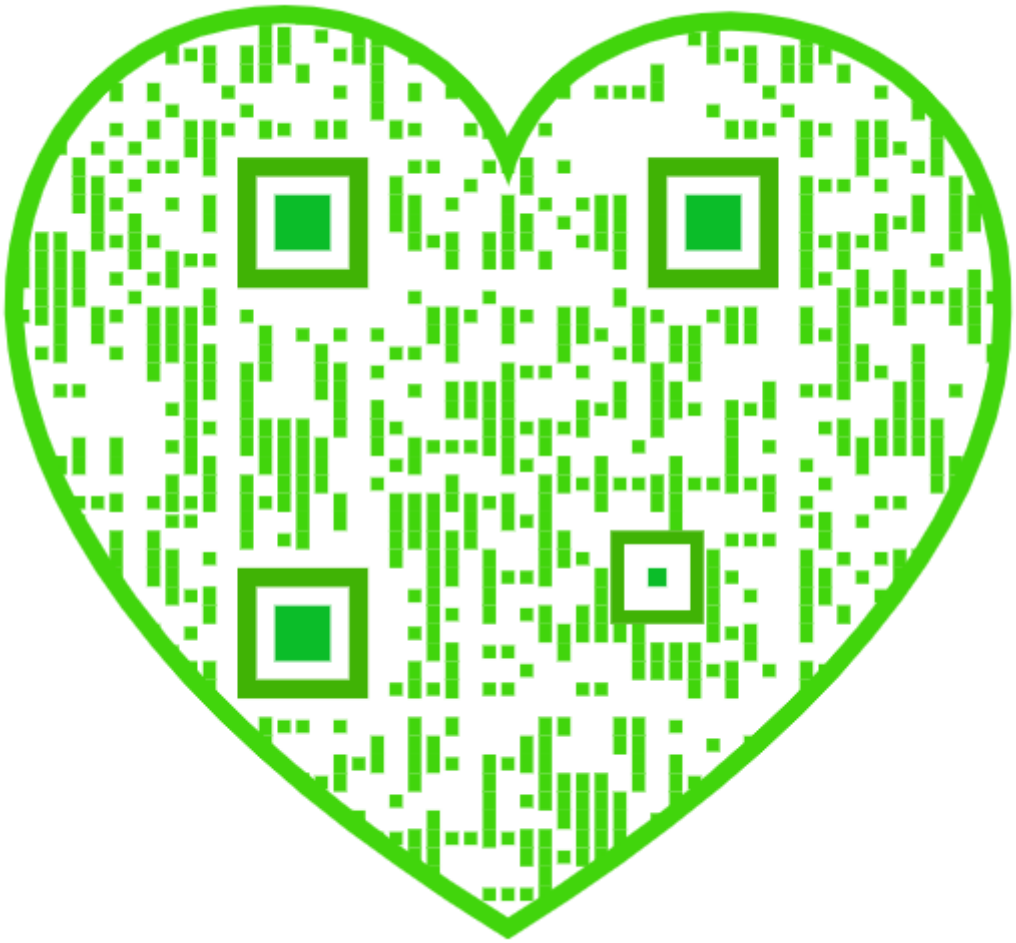

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AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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[For the American Bee Journal.]

Novice.

MR. EDITOR:—We feel it no more than our duty to say a few words in favor of "Novice," as he has been so often accused through the columns of your JOURNAL of "putting funds into his own pocket," and "trying to get his hands into others' pockets to get out a dollar," etc. The first start we made towards keeping bees was to purchase *Quinby's Mysteries of Bee Keeping Explained*, and send $2.00 for the AMERICAN BEE JOURNAL, one year, through the pages of which we read many interesting articles from its contributors. Being of an inquiring disposition, I wrote to many of the contributors, asking questions, and generally enclosed from 10 cents to $1.00 according to questions asked, as a recompense for trouble, etc. Among the number written to were some of those who are calling "Novice" greedy after money, but all of them kept the money sent them, till one day I thought I would write asking "Novice" more questions than I had any other one. I intended to have enclosed $1.00, but found I had nothing except 25 cents, so I enclosed it and let it go. I soon received a satisfactory answer to my questions and the 25 cents; "Novice" stating that he did not know what I wanted for the 25 cents, so he sent it back! Brother bee-keepers, I feel a little like being ashamed of you, not because you kept the money sent you, but because when "Novice" is trying to help others along by first giving a description of the conveniences he uses, and then, if they cannot make them or hire them made, to sell them to those desiring at a reasonable compensation, you have so much fault to find with him.

G. M. DOOLITTLE.

Borodino, N. Y., June 20, '73.

P. S.—Bees doing finely now; locust, white and red clover in full bloom. Bees work about alike on each.

G. M. D.

[Translated from the Benenzeitung.

Renewing and Impregnating Queens.

As the prosperity of the hive depends upon the fertility of the queen, one of the weightiest matters coming under the attention of the bee-keeper, is to have none but productive and perfectly healthy queens in the stocks he desires to preserve through the winter

Too old or otherwise defective queens must be removed, young and healthy ones being substituted in their place, or, stock wholly destroyed. Owners of a large number of stocks would do well to mark on the hive the age of the queen. One year and two year old queens can winter profitable, if they still show themselves to be productive, but three and especially four years old, are too aged. In all probability they will fail the following spring, at the very time, when their brood would be most needed and the stock will bring little or no profit.

If one is in the position to substitute for the old queen, after the lapse of a few days, a young and fertile queen, the operation need not be limited to any particular season of the year, and he will do well to remove a queen unfit for the performance of her duties, if he is in position to substitute a better in her stead. Last summer I divided a stock in a log hive, taking therefrom a large swarm. I had two objects in view; 1st, to obtain a new swarm; 2nd, and more especially, to substitute for the old queen, an extremely beautiful and fertile Italian queen. Notwithstanding I had driven nearly all the bees out I could not get the queen. After a time I opened at hazard this same stock, and found the queen on the first comb. Naturally, I at once removed her, and after the lapse of a few days gave them another and thus accomplished my first object.

Especially on warm days queens leave for a time the brood comb where the greatest heat is, and seek the cool portion of the hive near the door. Opening the hive* and without loss of time or great disturbance removing the combs

*The Dizierzon hive is here alluded to.

near the entrance the queen will be soon found and much waste time spared, which at other times would be required to find her.

If the rearing of a queen has to be left to the hive itself, then certainly the old queen can not be removed at will. Should the removal be too early, then the rearing of an entire generation of bees will be hinderd, which could be of great use during the year, and after the lapse of fourteen days an unwelcome afterswarm and consequent weakening of the swarm may follow. Should the removal of the old queen be postponed too long the trouble to be feared is a want of drones or more especially the want of a warm fine day favorable for the bridal flight of the queen. This last condition will be worse than the first, because an old queen still productive, is better than a young unimpregnated queen, which will lay nothing but drone eggs, and drones will never bring a stock to a high state of profitableness.

With this regard one can count on the fertilization of a queen, though born late in the season, if it be strong and its wings free from any defects, and the autumn affords a few fine days. If there are in the neighborhood a number of stocks some drones will be met with, although the bees may have destroyed the great majority long before, so that the queen repeatedly flying out and searching will chance to meet one.

Besides, let the pleasant and warm days of a temperature of about 20 R., so favorable to the fertilizing flight, pass unused during the summer months, and they will become rarer and rarer as autumn advances. During the entire month of September, when our association met at Graz, there was not a single favorable day on which the queen could have made a successful flight, although I had plenty of drones in my apiary, yet on the 8th of October, a lovely fall day, all were fertilized. An examination that evening revealed the fact that each young queen, heretofore unmated, bore the undoubted signs of impregnation. After such observation, one need have no fears; especially when he sees that the body of the queen has swollen and that she begins to lay eggs, which unimpregnated queens rarely or never do during the first fall of their existence. But one must not judge the queen unimpregnated because he finds no eggs in the cell, and the body of the queen remains lank. Many stocks, with late reared queens often hatch brood (using their store of pollen) until late in November and December, alas, often to their own undoing, yet not always. Others place themselves in their natural fall nest, desiring no brood, prepare no food for the brood, nor feed the queen with any, so that her body is not appreciably altered, and none but an experienced eye can tell whether she is impregnated or not. Under such circumstances how shall the truth be discovered, so that an unimpregnated worthless queen shall not be kept over the winter? Her ability to fly is one very good ground from which to judge. A laying queen is somewhat disabled from flying. While examining a hive last autumn, the comb upon which the fertile and laying young queen was, accidentally fell from my hands. The scattered bees returned to the hive, and cursory glancing at the returning bees I was unable to distinguish one from another. About an hour afterward, noticing a restlessness in the bees, upon examination I discovered that the queen was on the ground in front of the hive making vain attempts to reach the entrance. An unfertilized queen on the other hand flies easily and nimbly as a working bee; a queen impregnated but a few days, although not yet laying, flies with difficulty and reaches the entrance of the hive only after some exertion, should she be allowed to fly before the hive. After the middle of October when there is no further chance of fertilization, the wing of a queen of doubtful fertility may be clipped. The next step will be to feed the bees at certain hours with somewhat fluid honey, when the queen, if unfertile, will fall to the ground and the stock show signs of queenliness. The situation will then be known and either a new queen be supplied or the stock destroyed.

The removal of aged queens is, alas, too often delayed, because in stocks populous and filled with honey it is a very difficult operation, and further, by the hope that the bees will themselves renew their queen. The Italian bees, whether full-blood or hybrid are very apt to bring about such renewals. I have repeatedly observed that even when the stock has a somewhat vigorous queen the bees will make preparations for a successor. With bees having but a trace of Italian blood, we may note the removal of their queen, without examining the interior of the hive, by noticing the appearance of a young generation of bees—lighter or darker in color than the old bees. With young bees of the unmixed race this distinction cannot be made and hence one can not decide whether the new or old queen still reigns. But this distinction can be adopted with certainty, when the young queen of the black swarm is impregnated by a pure Italian drone, as among the young bees some will appear with yellow bands.

DIZIERZON.

Caulsmarkt.

[For the American Bee Journal.]

Jottings from the Apiary.

Believing that each one of us, as we monthly derive both instruction and profit from the reading of the JOURNAL, as we peruse the thoughts of such a corps of contributors as Langstroth, Quinby, 'Novice," Gallup, Grinum, and I might continue almost *ad infinitum*, are receiving much valuable information for which we should render some small return, at

least, of our own observations, I have thought it proper to tender a few "notes by the way."

How much interest was felt in relation to the cause which occasioned the disastrous losses of our bees in the winter of 1871–2, and yet but few, if any of us, were prepared for the fact that, the winter which has just closed, (that of '72 and '73,) would far surpass the previous one in point of fatality, even, in many instances, devastating entire apiaries; and I greatly regret to state that, in a radius of fifty miles from the point at which I write, that from one-half to two-thirds of our colonies have perished. I feared last fall that, in the absence of proper management, this loss would occur, and so I predicted.

I assume that however much honey a colony may be possessed of, even if such be stored in their permanent abode, the queen will not continue to increase her brood, *unless food can be procured from abroad.* And by the proper management, before referred to, I mean judicious feeding when the bee fails in finding her treasure in nature's storehouse. At least, this is the result of careful observation for many years past. Last fall there was a decided failure in our honey crop, and (except that feeding was resorted to,) the queen ceased to deposit eggs, and, as a consequence, the stock passed into a very severe winter with comparatively nothing but old bees; these gradually died off, none younger were left to fill their places, and although they were possessed of ample stores of both honey and pollen, they perished from cold. I have carefully examined many that have died, and found abundant food, and that, too, in such position in the hive as was easy of access to the bees. One stock in particular I looked at in the cold of early March, (this, too, was possessed of a young queen,) and found at least twenty pounds of honey, no brood or eggs, and less than a pint of bees; the bees, when shaken from the comb, would rattle like small stones, apparently frozen stiff. In every case the combs were entirely clean and free from smell; and in only one instance was there a little mould. And just here I would say to Mr. Johnston, who writes in the May number, that we had not the appearance of honey dew in our locality last fall, and I entirely agree with him when he asserts the fact that should such have been the case, I could not have found a clean hive and combs, because, having had some of his sad experience. I look upon honey dew as one of the most fruitful sources of dysentery.

I know that he who attempts to account for such serious losses as have taken pl ce dur ng the past winter, should have reasons to present for the "faith which is within him," else he will surely be controverted, or, at least, disbelieved, by those who hold a different theory. And this is but just and right, thereby do we gain all our practical knowledge, and "surely in a multitude of counselors" there should, at least, be "a little wisdom." Let it be our aim to state our opinions carefully, and not too positively, having earnest respect for those of others; and most gladly would I accept any cause of argument which would disprove the conclusions I have so clumsily stated, and which I have only arrived at by being forced so to do.

How many different opinions were advanced as to the disasters of '71–2; and it might not be presumed too bold an assertion to state that even yet it appears an open question. I may be pardoned, then, if I here say that I approached the subject presented with no small degree of temerity, but feel that I have attempted to discharge a duty when I have stated the prominent facts which have passed under my observation, and, by my action in the premises, shall probably draw the opinions of those who are much more capable than myself, which is the ostensible object of this article, and this much granted I shall congratulate myself that I have not written in vain.

Fearing the results before stated, I last fall fed four of my stocks, not my best by any means, (most of the strongest were lost,) and the result was clearly apparent; during the months of October and November they had plenty of brood, and although three of them had queens *three years old*, the brood was even disproportionate to the amount of honey in the hive, and to-day they are the strongest stand in my apiary; one of them a hybrid, having drones flying on the 15th day of April, and yet we had quite cool weather. Would it be too much to assume, then, in conclusion of this already too long communication, that, had we last fall taken the advice of friend "Novice," and fed our favorites with well prepared syrup, it might not have been our painful duty to now assign our reasons for the disaster which has so lately fallen upon us, the return of which I hope will never have to be recorded by any true lover of the "B."

Beaver, Pa., May 8, 1873.

[For the American Bee Journal.]

Gallup vs. "Novice" or Dysentery.

In volume VII, No. 12, p. 274, "Novice" asks, "Will our Western friends please tell us if bees ever have the dysentery after flying in the Spring?" Also, on the same page, he says, "Others, besides Gallup, have given the theory that, when young bees were raised largely in the fall there would be no dysentery. But, alas for theories!" Now, Mr. "Novice" we gave facts as far as we went. There was no theory about it. But we never pretend to give the whole history of bee-keeping in one short article. Now, our queens, that bred late in the fall, did not commence to breed in the spring until they were set out of the cellar, while old

queens, that stopped breeding the first of September, commenced breeding quite rapidly in February, during the warm spell; and March turned cold, and continued cold during the entire month, and with us, in a damp cellar, it is the young bees that get the dysentery, and not the old ones. Furthermore, old bees are incapable of digesting pollen, and so are drones. So your drone-laying queen was no illustration whatever. We set our bees out some time in April, and they began to breed very rapidly. Sometime in May, (we did not keep the dates,) our bees were confined to the hive 21 days by cold, damp weather, and stocks that had bred most rapidly, and especially our stocks that had wintered on the summer stands, had large quantities of young bees of the right age to require a purifying flight, and they had the dysentery very bad, so much so that I was fearful of losing some of the stocks. Standing in front of the hives, it could plainly be seen that bee after bee would pass out and fly away, never to return. Some stocks dwindled down one-half. Our bees were Italians Many stocks of of black bees in my vicinity, that were strong in numbers when set out in the spring, dwindled down entirely, and disappeared, leaving, in many cases, both brood and honey.

On the first day of their flight after their confinement, it was a sight to see their discharges. One person said his bees appeared to have strings from an inch to an inch and a half long attached to their abdomens; mine certainly presented such an appearance. Our bees that had the dysentery in the cellar, were those that had raised brood largely in the cellar, and in every case they had ceased breeding a month earlier than common. All those that we kept breeding until the usual time in the fall by stimulation, did not commence breeding in the cellar, and did not have the dysentery in the cellar.

Now, "Novice," don't say so much about theory, for we are stating facts; and there is more to this question that we have not yet considered, but will endeavor to do so in another article. Therefore, do not commit yourself just yet on the subject.

One person lost 20 out of 30 black stocks in May, and those stocks were in good condition to all appearance when set out in April. Another person bought 5 stocks, and selected them from a lot; removed them home, and lost them all in May. But, as there was no room on the ground, and they left the hive in all cases to die, consequently there were no dead bees seen about the hives. In two cases, under similar circumstances, in our long experience, we have had bees take the dysentery in the spring after their first flight that we distinctly recollect.

E. GALLUP.

Orchard, Mitchell Co., Iowa, Dec. 23, '73.

[For the American Bee Journal.]

Items.

After a late start in the spring bees have done well. In a season like this there seems to be such an abundance of honey that five hundred stocks could be kept to one that is. After fruit blooms are gone the poplar blossom opens; generally about the 15th of May. This lasts about three weeks, and is so rich in honey that the bees will scarcely notice white clover while it lasts. I have seen, on a warm, dewey morning, large drops of honey in the tulip-shaped poplar blossom, so that a bee could load itself two or three times from one flower.

There were only some twelve or fourteen colonies left in this township at the close of winter. My own stock was reduced from twenty-three to six; have increased to twenty full, strong colonies, up to this date, June 26.

I suppose that most all progressive bee keepers who use frame hives, can now get along with spring and summer arrangement, in fact thoroughly understand the business, at least well enough to get just what they want—honey, increase of colonies, or queens.

But to successfully winter—Ah! there is where the rub comes in.

Can we not have through the JOURNAL some more definite instruction for out-door wintering from men who have had good success the past two winters, and let us have it in time; do not wait till winter is upon us.

Yours respectfully,

INDIANA.

Artificial Food for Bees.

A good preparation for feeding bees in the Spring is said to be as follows: Take at the rate of five pounds of refined or white sugar, two gallons of soft water, one tablespoonful of salt, ten grains of cream tartar; put all together, bring to a boil, skim, and when cold, add eight ounces pulverized, slippery elm bark, or fine oat-meal, stir it well, then feed in the hive.

AN enthusiastic apiarian is said to have been stung 1,100 times by bees, but he still has a prejudice in favor of the innocents.

[Translated Kleine's Bee Journal.]

Spring-Feeding.

Spring-feeding is divided into two kinds; that of necessity, and that of speculation. Under the first head the bees are given just so much food as will keep them alive; under the second, the bees will receive more, in order to stimulate the rearing of young bees and thus obtain many and early swarms. Those bee-keepers who lack a good spring pasturage and are desirous of using their bees to the greatest advantage, have to unite these two kinds of feeding, which is then called spring-feeding.

Those ignorant of the state of our pasturage, both in the Eichstadt *Bee Journal* and in many books of instruction, have strongly denounced as injurious the much-feeding and forced increased of population practiced by certain bee-keepers, and called it irrational. Even the great Dzierzon himself, who depends on late pasturage, declares (Eichstadt *Bee Journal*, 1866, p. 59), "I hold this perpetual bee-feeding, as done by the bee-keepers on the heather, to be a dangerous abuse. This feeding is an evil which should be resorted to only in desperate cases. Baron von Berlepsch has committed himself in like manner." I cannot, in all things, agree with the teachings of the above named authors; nevertheless, I am of opinion that many of the heath bee-keepers often feed at unseasonable times, and too strongly for stimulating purposes, so that they often accomplish the contrary of what they seek. At least, with good intentions, they squander much honey. It may, therefore, be of interest and use to become acquainted with spring-feed as practiced by the heath bee-keepers.

To all unprejudiced bee-keepers, who possess abundant spring-pasturage, it must be evident that, generally, for those locations having a poor spring-pasturage, and especially for such places where the chief honey yield begins early in July, spring-feeding, as a rule, is unavoidable. Because,

1st. In but few very prosperous years will it be possible to have the desired number of standard stocks, which will likely reach with their honey supplies until the opening of the honey season; while too many will reach the end of their supplies before that time.

2d. Such stocks as have too thick honey-combs will make poor standard stocks, because in the spring the bees will have much trouble to reduce these deep cells to the length proper for brooding purposes. Such a swarm increases in numbers slowly.

3d. Moreover, the preservation of the living bees is not alone to be regarded, but much more, during the poor honey months of May and June, should the rearing of brood and multiplying of the population of the hive be stimulated through "speculative" feeding, so that by the opening of buckwheat blossoms the number of the nursing bees shall have increased 2½ per cent. and that there be an abundance of laborers for the harvest.

When it becomes evident that in certain localities bee-keeping will not pay without spring-feeding, and that it is a necessary evil and appurtenance of paying bee-keeping, it becomes important to discover what is the food best adapted for our purposes. In many places candy or grape-sugar is given to the bees instead of honey. These substitutes are warmly prized by many, and as warmly denounced by others. I have made no experiments to test their value. We heath bee-keepers hold honey to be the best bee food. As in some scant years the supply will not reach, it is necessary to take advantage of favorable years and lay up a supply of food honey. The most of the heath bee-keepers, who have their apiary well in hand, retain for some years a good supply. An old rule among bee-keepers is, that food-honey must remain in store three years. To show the weight placed on this rule in old times, I would state that about fifty years ago, at the marriage of a wealthy person, it was stipulated in the marriage settlement that in selling honey from the apiary, a quantity sufficient for feeding purposes for three years should always be reserved. To this customary foresight is it that bee-keeping has for many hundred years rooted itself so deeply and firmly in Lunenberg, and that a succession of bad years did not ruin bee-keeping.

While the heath bee-keepers are unanimous in favoring the use of honey as a food-material, yet in the heath districts of Hanover there is a division as to whether, for spring-food, honey should be strained or not. Those apiarians who use unstrained honey (such as has been stamped into barrels, combs and all), declare that this kind is better for bees, because,

1st. This honey is in its natural state.

2d. That the bees, owing to the portions of wax floating in the honey, are not liable to drowning.

3d. That owing to the portions of the wax in the honey the bees are not in a situation so quickly to store away the food, and hence the hive will be kept during the night in a greater degree of activity, and consequently in a greater degree of warmth.

4th. Because intermingled with the honey and in the wax will be found quantities of pollen, which is needed for the young brood as food.

In opposition, those who use strained honey do not affirm that strained honey is better to feed than the mashed, but they are of opinion that it accomplishes the same purpose, and reply to

No. 2. That the drowning of the bees, while feeding, can be prevented; to

No. 3. There is no weight to be given, since the bees do not always feed all night long. The increased warmth, because they are not fed daily, brings no appreciable advantage.

No. 4 is based on many good grounds, since pollen plays a most important part in the housekeeping of bees. Yet, if judiciously-timed feeding is undertaken, nature itself will at this time supply the needed pollen, and favorable weather also comes for gathering it. And even where the spring is so backward as to prevent the bees from gathering the needed pollen, the little they will find in the mashed honey will not suffice them; hive-meal must be substituted for pollen. Admitting all the advantages heretofore stated in favor of crushed honey-combs, there will still be this disadvantage: the great loss of precious wax, especially if, on the following morning, the bee-keeper does not betimes remove the feeding-apparatus, with the refuse wax, and cleanse the floor of the hive. Should he forget this he will be opening the way for robbers. Besides, it takes a great deal of time, every morning after feeding, carefully to remove all portions of wax from the bottom-boards, especially if many bees remain sitting on the fragments of the combs.

Feeding crushed honey combs, especially in Lunenberg, is in my opinion bad, with the exception of the southeastern portion, where I live. Also in the adjacent Altmarkt and Braunschweig, where the old Lunenburger method is used, is the feeding of strained honey dangerous. Under such circumstances it is my opinion that when your bees require early spring-feeding, before they can obtain pollen from the trees, then it is most advantageous to feed them unstrained honey, on account of its pollen. I then give the unbroken combs the preference over the broken ones. Should these combs be pressed into the feeding-trough the bees will have to descend to them, and, should the weather be somewhat cool, they will find it difficult to return. Such premature feeding with skilled bee-keepers can only happen after an extraordinary bad year. In such years the owners of basket-hives must carefully save pieces of comb, filled with honey, to be used in early feeding. It is also of the greatest necessity in such poor years that the mother stock should, early in the fall, be supplied with the wanting honey.

In ordinary years such mother stocks should be chosen as will reach until May with their supplies. If, perchance, the supplies of some should give out by April, strained honey will not injure them, as they will then be able to gather pollen. I agree in the opinion of those who think that strained is just as good for bee food as the crushed honey-comb. The straining must be by the cold process, or as little heat as possible applied. In this locality, in my opinion, there is no necessity of feeding the unstrained honey, on account of the pollen contained in it. Our spring flowers are poor in honey, but rich in pollen. In favorable weather for fly in spring, I have observed in my hives with movable combs, that the bees gathered too much pollen, thereby narrowing the brood-space. On both sides of the brood-comb I have found two combs filled with pollen, so that the queen was unable to lay any eggs in these combs. When such quantities of pollen are stored in a hive, I deem it fortunate should breed-weather occur, thus causing the bees to use their stored-up pollen and remove the check on their increase of brood. The result of my observations has been, that should we have good fly-weather during April and May, the brood does not increase so rapidly as when we have changeable (not stormy and rough) weather. From the above-mentioned facts this is very evident.

I think I have now shown that, with our quality of pasturage, strained honey is just as good for food as unstrained. We, who use strained honey, have this advantage; that we lose no wax, and save the time required in gathering the wax and cleaning the bottom-board. The opinions of bee-keepers are also divided as to whether the honey should be diluted in water or not. The great majority of bee-keepers feed at the commencement with undiluted honey, and afterwards following an old bee rule, when the oak trees thrust out their leaves, feeding diluted honey. Many always feed undiluted honey, and believe it to be the best. I formerly tried it, but abandoned it; and for these reasons:

1st. Because it does not flow so readily or regularly as diluted honey, which is not so heavy—an object to be considered in a large apiary

2d. I require proportionally more honey than when using it diluted, and the development of brood among my bees is somewhat hindered.

3d. Weak stock are unable in cold weather to take up their food as rapidly as they should, so that in the morning their food-troughs shall be quite clean. With candied honey, especially when much crystalized, the bees are unable to deal, unless the honey crystals have been moistened with water.

If one reflects over the household economy of the bee, he will readily come to the conclusion that in feeding for stimulating purposes, honey diluted with water is better than honey undiluted. Because, through such feeding, will there be a larger development of brood. For the preparation of the food the bees must be supplied with much water. Had we constantly in spring, such weather that the bees could fly without danger and obtain what water they needed, there would be no objection to feeding undiluted honey. But every observer well knows, that even as late as May, the weather is some days so unfavorable that the bees cannot bring in any water. In pleasant weather thousands are engaged gathering water, and, in unfavorable weather, they are thrown into the water and drowned. Is it not, therefore, better to dilute the honey given them, so that the bees may more readily carry up their food and prepare nourishment for their brood?

Through water the honey will again resume its natural, watery, nectar-like appearance. Upon these grounds, in case I am forced to feed in order that I may keep my bees alive, I give them water. Later, when feeding for the purpose of stimulating is begun, I mix one part of water with two of honey. Should I feed very old honey I use equal parts of both. In feeding young swarms, for which no very old honey can be used (since it would reduce their building instinct, but would increase their swarming desire), I use honey one year old, mixing them half-and-half. For thinning the honey, most bee-keepers prefer flowing water to well-water. Many boil the water first, thinking it advantageous. Having my bees at some distance from the house, I have taken the water I used for diluting the honey from a small stream, and have never tried boiled water. According to late scientific discoveries, water is filled with vegetable and animal organisms and germs. In boiling water these are all destroyed and the water will not prove injurious to the bee-food. In this respect, boiling the water is judicious. But when one reflects on the other hand, that the bees gathering the water for feeding their brood from standing pools (which would first come under the head of impurity), and that such water does not injure the brood, we are led to believe there is no necessity for boiling the water. In preparing his bee-food, the bee keeper must have care that he does not dilute more honey than he will need that night. Should any honey remain unused, longer than a day, if the weather be somewhat warm it will become sour. H. SCHULZE.

Knesebeck, March 9, 1873.

[For the American Bee Journal.]

Doolittle's Article.

DEAR JOURNAL.—We really did not know what title to give to our rambling thoughts, so we concluded to head them as above. We have passed through one of the most disastrous winters to bees within our knowledge, in Onondago Co. Fully three-fourths of all the bees in the county, which went into winter quarters last fall, are dead. Of those who belonged to the class who hive their bees, and then let them take care of themselves, scarcely one remains.

Our bees were wintered on their summer stand, according to a plan given in a previous number of the JOURNAL, and came out with the loss of but one swarm, which starved through carelessness. Four were found queenless, which with two very small ones, we united with others, making our present number thirty five.

Our bees flew finely February 4th, and March 7th, which would not have been the case had they been in the cellar. They had their cleansing flight April 1, and it remained fine weather for them (which they improved, carrying in flour, water, etc.,) until the 17th, when it came off cold and has remained so without a day warm enough for them to fly ever since, the result of which is although the queen has laid some eggs within that time, yet the bees have not hatched any of them, and there is not thirty square inches of larva in all our hives, and has not been in the past ten days. This is not guess work, for we have examined, so we know.

The 16th of April our hives averaged one hundred and fifty square inches of brood in all stages, and at the present time scarcely anything but eggs remain, as nearly all the sealed brood hatched. This will be a serious draw back, even if the weather proves favorable hereafter. I have tried feeding some swarms half a pound every day, and they are no better than the rest. Now Doolittle wants his say about this feeding to promote breeding in the spring, or any other season of the year, as we have tried every plan we have ever read about, and that is quite a number, we will assure you. Have all the honey in the hive in the fall that your bees can possibly consume by the next season, when the flowers commence to yield honey, which is not less than thirty-five pounds, then when the bees begin to fly the next spring, divide the cluster in the centre, (if they have all the brood they can protect,) and insert a frame of honey after first breaking the sealing of the cells, by passing a knife flat ways over them, and so keep doing as fast as they can protect the brood, and you will find that you will get your honey all used up and more brood than you can possibly get by feeding with any feeder. If you have not the honey in the hive, then you must feed of course, and even *then* we should prefer turning it in the combs. The worst way of feeding that we have ever tried was that recommended to the "Deacon," by Herbert A. Burch, in *Bee-Keeper's Journal*, where he says, "feed every stock by 10 a. m.," etc., we thought when we read it, here was where we had missed it as we had always fed in the evening, so we tried that, and they did "rush for the fields," and into every hive that could be got into, and such a time as we had we never want again, so we have gone back to feeding in the evening to prevent robbing if we are obliged to feed. Friend Burch will please excuse us, as perhaps our bees are like Quinby's, "very contrary." We want our hives tight at the top to keep in the warmth, and this we can secure to perfection with "Novice's" quilts. Another thing we do which we have not seen in print, and that is, we keep the entrance closed entirely nights, and during the day when the mercury does not rise above forty-four degrees, and by that means, keep in all the heat the bees can generate. If any one is afraid of smothering, try one or two hives, and they will be convinced that it cannot be done in cool spring weather.

We think we shall all have to come to the conclusion of D. L. Adair yet, that bees properly cared for, can live without air. We keep the

entrance shaded from the sun at all times when the bees can not fly.

G. M. DOOLITTLE.

Borodino, N. Y., April 28, 1873.

[For the American Bee Journal.]

From Fulton County, Illinois.

Friends Novice, Langstroth, Quinby, Gallup, Grimm, Hosmer, Furman, Davis, Tupper, Dadant, Bickford, Alley and others, which I cannot think of now, I am much obliged for the information derived from your writings. There appears to be some wrangling about who wrote first about some different ideas. Please have patience, one with the other, so they are only learned by the new subscribers. The same ideas should be printed over again for the benefit of new subscribers. What good ideas are in the back numbers of the JOURNAL, before I subscribed, will do me no good, for I have not got them. Send in your new lessons which you have learned this winter, I want to hear some founded on facts. I am still learning. Here is my lesson; it is new to me, perhaps old to some of the rest of you: It won't do to place your stands too near a stone wall in your cellar. I lost two good stands this winter by so doing, not dreaming that they would draw too much moisture; but they did, and were as wet as drowned cats, as the old saying goes. The others, placed promiscuously around in the cellar, with the hive shoved back to exclude mice, and an old piece of carpeting, etc., placed on for honey-board ventilation and to keep the bees from coming out, went through dry and nice

Novice, what do you mean when you say in your circular sent me some time ago, in describing the Simplicity Bee Hive? "Now saw off (on a bevel) two and a half inches from the top of the cover, and then hinge it in the same place and you have a perfect fit?" Do you mean to hinge it like the lid of a chest, or how? Your tops and bottoms are loose, and can be used at either place, if I understand you right. I think I would prefer the top loose, so I can shake the bees off in front of the hive when I open them and some stick to the top. I agree with you, Novice, that all good honey will candy if extracted in cold weather, at least mine has. Now, why do our Chicago honey merchants say they do want any candied honey to sell, when all good honey candies? I fear they want an excuse to make deductions, and therefore larger profits. How does it look to others?

I left one Standard Gallup Hive out all winter, protected by a high, tight board fence and smoke-house, with an old coat for a honey-board, and they went through all right, with the mercury at 28° below zero January 9th, 29° below zero January 28th, and 12° below zero one day in March. This has been the coldest winter ever experienced in this State, I am told. I was going to protect my thirty-seven stands in the same way I did that one, but could not get time; and, when we had the first cold spell of 28° below zero, I told my son that this would not do for unprotected stands; so we carried twelve Langstroth's in, which I intended to leave out, but two of them were gone, making four lost. One light swarm hived on the 19th of November went all right in my dry cellar, but when I put them out this spring and the mercury fell to 12° below zero they stopped breathing, making my total loss five in thirty-seven. If this had not happened you would have heard me "blow" about wintering bees, but I will hold my pen back now. Several men asked me whether an out-house would not be a good place to put bees into in winter. I told them it was not, except they make it with double walls, so the bees cannot freeze: but would rather leave them on their summer stands, where the sun can warm them up now and then on warm days which we get; they can then move their positions to their stores and hive. Whereas, in an out-house, with no protection, it is as cold as outside, and the combs continue to be frosty until it is too late. This is my idea. Am I right, brother Langstroth? perhaps it is old to you.

Do you think, Brother Novice, you can keep your head above water? I see some are going "heavy" for you, but I feel glad you can take it so patiently and press forward in our cause. That is the kind of spirit we all should let rule; when our pen wants to write some hard personal stop him on the spot, and consult with him how it looks in print—and, if he would go ahead, cut off those words that would wound the deepest.

If this article is too long for one number make two of it; correct in proof or throw it aside, as you think proper. Long may you live to do good to the bee-keepers of this and other countries, and never get stung by a drone is the wish of the dusty (miller.)

DANIEL. H. KELLER.

Duncan Mills, Fulton Co., Ill.

[For the American Bee Journal.]

Surplus Queens.

These should be reared in August and September, and kept in reserve for early use the ensuing spring. The advantages are so great that the operator is amply rewarded for his labor and expense. The intrinsic value of a colony of bees depends mostly on a good, healthy, fertile queen. Her presence and ability sustain and stimulate her subjects to action; without her the colony must go to ruin. Thus we may see how important a queen is to the prosperity of the colony. My experience teaches me, that in this cold northern climate, where our bees swarm so late in the season that our

young swarms do not come out early enough to be able to lay up a sufficient store of honey, the season being one half past before the young colonies are prepared to enter the field, it is wisdom to ask if we cannot do something to assist and strengthen our colonies in season, that they may be in readiness to enter the harvest field on the opening of the first blossoms, thus rendering the honey season much longer, giving the bees time to lay up a sufficient amount of stores.

Now, the question arises, how can we manage our apiary so as to be able to furnish bees enough to enter the fields in due time? My opinion is that we should be well rewarded for the extra trouble of rearing one or two surplus queens for each colony, to be kept in reserve until spring. A hive containing twelve frames and two division-boards, so arranged that the animal heat may be retained and equalized, giving each apartment four frames, an entrance at each end, and one in front; then put in each apartment about an equal amount of bees, young brood and larvæ, that they may rear a queen in season to be fertilized. We will now have three queens instead of one, and the same amount of honey and bees, and probably more. Let them remain in the same hive through the fall and winter, until they are to be put on their summer stands; then take each four frames and put into a new hive of the same dimensions, with a movable division-board, to enlarge the space with the growth and increase of the colony. Caution should be used to prevent the space being too large for the animal heat, which must in all cases be preserved.

Now we have three queens to increase the workers instead of one. We also have three swarms with workers sufficient to gather a good supply of honey, also in the fall a large, strong colony of bees. A good, prolific queen, with bees enough for breeding purposes, are all that is required in the spring, as most of the bees hatched in the fall, die during the first months of their flight in spring. Three queens may be wintered with the usual amount of bees, in a strong colony, with as little cost and trouble as one. If one queen is of any account in the spring, three are worth three times as much, providing there are bees enough for breeding purposes. Then you can see the advantage of rearing queens in August, for breeding the following spring. It is judicious management to leave bees to swarm naturally. In order to make it profitable, the apiarian must assist the colonies by feeding and stimulating to breed, that each colony may be strong and fully prepared to enter the field in the opening of spring. A strong colony in spring seldom fails to gather a full supply of honey. They have the whole season, while those that swarm out the last of July and August, have only about three months. Hence, the great advantage of rearing surplus queens for spring use.

Bees that are hatched in the spring do not live longer than the honey harvest, and those hatched in summer die before breeding time in the following spring; consequently, bees should be hatched as late in the fall as possible, that they may live until spring, to sustain the colony until young bees are bred to supply their places, leaving the colony in good condition for the coming season. No one need expect any profit from keeping bees unless they are properly cared for. It is like all other business, when neglected it soon goes to ruin. E. GERRY.

Garden City, Minn.

[For the American Bee Journal.]

Foul Brood Cured.

I wish to notice an article on foul brood by M. Quinby, in the May number of the AMERICAN BEE JOURNAL, in order to commend it to the attention of bee-keepers. Having had to contend four years with this loathsome disease in my apiary, I am happy in being able to say that I am now clear of it. And, as it is the only instance of foul brood having appeared in this State, as far as I can learn, I am gratified at my success in extirpating the disease without its extending to any of my neighbors. The method which I have pursued is almost identical with that recommended by Mr. Quinby in his book on bee-keeping and in the article referred to above. And I now feel satisfied that no great advance in knowledge as to the cause and treatment of foul brood has been made since Mr. Quinby published his book, though I was led to hope that some valuable discovery had been made by Mr. Lambrecht, a German, from remarks made by Rev. Mr. Kleine before a convention of bee keepers in Prussia, translated for the AMERICAN BEE JOURNAL and published in the number for September, 1870. But, as all interest in Mr. Lambrecht's discovery seems to have passed away, I conclude there was nothing in it better than that which we already possessed.

I think it possible that the hyposulphite of soda, suggested by Dr. E. P. Abbe, (A. B. J., vol. 6, p. 97,) would be a valuable remedy if any easy method could be devised of bringing it in contact with everything containing the disease. I thought I had cured a foul broody stock of bees with it, but unfortunately, before I could be really certain of it, I re-introduced foul brood into that hive and several others by feeding with honey containing the disease. The hive with which I experimented had brood in four frames, all of which was more or less affected. My atomizer was a very poor affair, but the best I could get. I cleansed all the cells that I could see, containing dead brood in the way described by Dr. Abbe. To be certain as to the effect of the remedy, I marked a good many of the cells out of which I had removed the putrid matter, and found that the bees

immediately cleansed them out, and the queen deposited eggs in them which produced healthy brood. But, though I could hold the disease in check, I could not entirely remove it. Upon closer examination I discovered that the disease was much more widely extended than appeared at first sight. I had been misled by the descriptions of its appearance which I had read. I found that a great many unsealed larva were dead, and it required close inspection to determine that they were not alive. The live ones were elastic and showed signs of life when touched, and had bluish colored heads, but the dead ones were flabby, and had a pale pinkish appearance. A great deal of the sealed brood which was dead did not show the caps of their cells sunken and perforated. On the other hand, I could often detect the dead brood by the caps being a little puffed. On removing the caps the cells were found to be full of matter resembling cream. Seeing that I was not likely to reach all the dead larva with my disinfectant, I determined to go through the four combs regularly cell by cell, carefully unsealing every one that was sealed. It was a tedious undertaking, and took me two whole days to accomplish it, but it lessened the disease very much.

After a while, however, diseased cells appeared in all the combs. I then destroyed two of them and went over the other two again in the same way. After giving sufficient time for foul brood to make its appearance, I made several examinations and found none, and thought I had made a cure, when I fed the infected honey to them as before stated. It was then so late in the season, I was obliged to abandon the experiment.

With the treatment recommended by Mr. Quinby I have never failed. I have had as high as fifteen diseased stocks at a time. The hives, frames, bees, honey, and wax are all saved, and the greatly improved condition of these stocks from the extra pains taken with them, caused by frequent examinations, almost compensates for the trouble and loss attending the disease. The most prosperous colonies I have in my apiary are some of those that had foul brood. So that, though it once terrified me with the fear that I should lose all my bees, (about 100 colonies,) I now dread it very little.

D. BURBANK.

Lexington, Ky., May 27, '73.

[For the American Bee Journal.]

Old or Young Bees, to Winter.

MR. EDITOR.—I see that there is a strong desire in some of your writers to go for somebody or something, and, as I was foolish enough to express my ideas in the JOURNAL, on the subject of wintering bees, it seems to be necessary for me to reply to some remarks on that subject. Mr. Novice has succeeded in wintering a very old swarm on sugar-syrup, and has lost a young one on honey. I do not see the point, unless he thinks old bees better to winter than young ones; but his statement does not prove any such thing, as he didn't try the syrup on the young bees. Now we, as well as nearly every bee-keeper in the land, know that crushed or loaf-sugar makes the best feed for bees, and I have no objection to his so stating in every article that he writes; provided, that he will cease to try to prove that honey is so poisonous that it is sure death for bees to eat it. I am getting afraid that he will convince some of our customers, and spoil our market? Who would want to give honey to his children, when he was sure it would kill bees? We do not raise such honey in Minnesota.

It is claimed by most of the writers on bee-culture, that the natural life of a worker-bee, in the working season, does not exceed sixty days; and some claim much less. Now, Mr. Wurster has wintered a swarm of bees that were one hundred days old when he put them into winter quarters. He says that there is not one particle of foundation in the old bee-theory—his experience proves it. Now, let us see if his experience proves as much for others as it does for himself. He says that when he opened the hive in March, after their being in the cellar five months, they were considerable stronger than when he put them into winter-quarters. Now, did they not rear those bees, and were they not young, and had they not taken the place of the old ones, which, he says, were few in numbers? And does he not say that he found, at that early day, 7,520 bees unhatched? Now, I ask, does not his experience prove positively that those bees bred up, and that he absolutely wintered a young swarm instead of an old one? Let me say to Mr. Johnson that I prefer bees to winter that are reared in October to old ones. I see that the strong case that he makes out is not for or against the old bee-theory, but in favor of good honey, of which we have an abundance.

J. W. HOSMER.

Janesville, Minn.

[For the American Bee Journal,]

Echoes from Maine

In the April JOURNAL, "Novice" seems a little nettled at the sly but vigorous thrusts of that prince of bee-keepers, Gallup, who has not forgotten the ridicule with which "Novice" greeted his proposal to furnish information for making his new hive for one dollar, which offer was undoubtedly made to ward off the innumerable letters of inquiry that he knew would be addressed to him before he had perfected the hive and written a full description for the JOURNAL. "Novice" must not forget that "those who live in glass houses should

not throw stones." It will not do at this late day to arrogate to himself *all* the knowledge and disinterested benevolence pertaining to any profession or subject. When a person becomes eminent through legitimate means, it is right that he receive the applause of the world; but when such a position is used to "turn an honest penny," and no opposition or rivalry tolerated, then people will consider the case from a worldly point of view, and judge accordingly. It is just here that "Novice" presents his weak point, and those whom he has so mercilessly punched have been quick to retaliate, while the readers of the JOURNAL laugh at the inconsistencies presented. We do not object to these harmless skirmishes, but on the contrary rather enjoy them, and certainly we can see no objection whatever to the practice of allowing all who are confident that they have a hive, or any other device, interesting to bee-keepers, the privilege of describing them in these columns, whether they "have them for sale" or not, and we rejoice that the utmost freedom in this respect has been given since the foundation of the JOURNAL.

Well, Mr Editor, away down in Maine we are just emerging from another long, cold and tedious winter. Since December 1st, 1872, there has been uninterrupted sleighing, until this week, when runners are giving way to wheels. Yet, notwithstanding the unusually long season of cold, our bees are coming through in fair condition. We put six stocks into the bee cellar December 1st, leaving three very strong and heavy stocks in the bee-house, one of which was placed in a large dry-goods box, and thoroughly packed with straw, the entrance being left open. About March 1st the bees all died—starved to death—leaving about thirty pounds of honey in the frames. The cap of another hive was filled with straw, packed on woollen quilts, which was raised half an inch above the frames. This stock got through to March 1st very well, but then the bees died off rapidly, and we took it into the cook-room, placed our wire flying cage to the extreme end and let the bees enjoy themselves for several days. After the combs were dry we removed it to the cellar, but the bees dwindled away to a mere handful. The other stock was in one of Allay's Bay State Hives, and was prepared for winter by removing the honey boxes and filling the case with straw. The bees in this hive came through in fine condition, and it is now our strongest stock. All of the six hives that were put in the cellar December 1st wintered safely consuming but little honey and losing but few bees. One of these hives was very small, containing but four frames six by seven inches, and we did not feed them until the last of March.

GEORGE S. SILSBY.

Winterford, Me., April 16, 1873.

[For the American Bee Journal.]

A Beginner's Experience.

I am but a raw recruit in the little army of American bee-keepers, this being my second year's experience. I have found pleasure and deep interest in the study of Quinby and Langstroth, with first lessons and text-books, and the leading bee journals of the country. My beginning was with one swarm in a box hive, increased to three the part summer by natural swarming. Had them transferred to frame hives in August, and the Italian queens given them by our excellent friend and patron bee-keeper, Mr I. M. Marvin, of St Charles. Received about seventy pounds of honey this year. To these I added in the month of November following, by purchase ten swarms of blacks in box hives, and put them all in a dry, dark cellar, November 24, for winter. All came out the first of April last in fair condition, with one exception, resulting in the loss of the hive, but saved the queen—my best Italian—by placing her in another stock purchased for that purpose. Transferred the blacks to frame hives during the time of fruit blossoms, early in May. All resulted well, and I soon began to make swarms by taking two frames of brood and adhering bees each from several hives, and placing them on new stands and giving them a capped-over Italian queen-cell. Increased to twenty-five stocks, but the season for honey being so poor, and not wishing to go too fast, made no more swarms, but Italianized the balance of old hives.

At the close of the honey season weighed all the hives and marked the weight on the caps of each, and all not having twenty-five pounds of stores were fed sugar-syrup up to that weight.

The three old Italian hives gave me more surplus honey than all the ten blacks combined.

Having a new Peabody Extractor and wishing to make it useful, and finding one of our neighbors preparing to brimstone several hives, we proposed to do the job for him (minus the brimstone) for the bees and empty combs, which offer was gladly accepted. So, on the 9th day of October last, we repaired to the farmhouse and drove out the bees and tied them up in snug, clean, empty boxes, each swarm to themselves of course; then carefully removed the combs, uncapped the sealed honey, and in a short time had a nice lot of empty combs, (except the bee-bread, which was not disturbed), and all done to the entire satisfaction of the good farmer, who was well pleased to have us save the lives of so many innocent little busy bees, and give him his honey in so nice a shape. Well, Mr. Editor, we brought those bees and combs home, and, after transferring the combs to frames, run the bees in, making seven strong swarms, as to bees, but no honey. So we let them have a day or so to clean up and set things in order, when

we commenced feeding a syrup made of ten pounds extra C sugar, dissolved in four quarts of water, with cream-tartar or cider-vinegar to prevent granulation, boiling and skimming the syrup before use. Fed from two to four pounds per day to each, thus enabling the queens in every hive to fill two to three frames well with brood, and also giving time for evaporation and capping over the same. We fed them from fifteen to twenty pounds of sugar each. These hives were housed in my cellar on the 16th day of November last, together with my twenty-five other hives, and at this date, February 14th, appear to be as healthy and with as few dead bees as any one in the cellar.

This, Mr. Editor, is our test of the sugar-syrup principle, and, if it succeeds, we will not hesitate in future to use the extractor most freely, late in the season as well as early.

JESSE OATMAN.

Dundee, Kane Co., Ill. Feb· 14th, 1873.

[For the American Bee Journal.]

More About Rape as a Honey Plant.

MR. EDITOR.—I am daily receiving letters (my brother being absent) in regard to the culture of rape. So, herewith, I enclose you a circular that will give the desired information; and, if it will not occupy too much of your valuable space, you would, I think, do the bee-keepers a great favor by publishing it in your next number. My brother referred bee-keepers to the Report of Agriculture, but they do not seem to heed it. A detailed report is there given of its culture, but as many bee-keepers do not possess a copy of that work, this circular will be of value to them. Bye-the-bye, I hope Mr. Hunt, of Appleton, Wis., will give us a word on the subject, he having lived right where it is raised.

I see that Mr. Gallup has "come out" on my "lamentations" in the April number—at least, I suppose he means me, by giving me the name of "Drusche." Well! well!! I have seen my name undergo many changes, as if under the control of a magic wand, but this is the greatest contortion it has ever been called upon to sustain. Still, "what's in a name?" Mr. Gallup says "forty-six stocks of bees are rather a bad burn." Nay, nay, friend Gallup, it was rather a bad *freeze*, at about seven different times, of more than twenty-three degrees below zero—not much burn with the thermometer in such a *weak* condition.

He speaks about cautioning bee-keepers in the back numbers of the JOURNAL, etc., but the caution was useless to us, as we did not have the A. B. J. at that time; consequently, did not hear or heed his warnings. I did not particularly intend to give reasons *why* my bees died; I only endeavored to express the idea that they could not have died because there was not enough young bees, as Mr. Hosmer says, but, if Mr. Gallup knows, he will do us a great favor by imparting the much desired information to us, and we will hold perfectly still while he beats the knowledge into our somewhat thick-shelled cranium.

I should like to make many more remarks, but I suppose, Mr. Editor, you are already grumbling at the length of this letter. I cannot, however, forego the pleasure of stating that the bees we bought are doing well. Who cares for the past, so long as the present and future looks bright?

Yours in good hopes,

J. D. KRUSCHKE.

Berlin, Wis, May 16th, 1873.

[Circular.]

A WORD TO FARMERS.

The experience of the past year, not only with respect to the price, but especially the long settled fact, that growing wheat year after year on the same land impoverishes the soil, ought to have led thinking farmers to the cultivation of other products, which would put a stop to the total enervation of the soil. There are various products of agricultural industry which not only *do not* weaken, but, on the contrary, strengthens the soil and secures to the farmer just as good, and even a better return, than wheat. Among these, and best understood, are the breeding of cattle and the production of butter and cheese, than the raising of leaf crops, such as clover, peas and rape seed, which, by covering the ground in mid-summer with a thick cover of leaves, increases the fertility of the soil. It may be said that all localities are not adapted to the breeding of stock, especially in newly settled regions. But clover, peas and rape see can all be raised in new ground as well as wheat, and with equal or greater profit. It is the cultivation of rape seed in particular, to which I wish to call the attention of my fellow farmers, for this branch of agriculture has not as yet received the attention which it deserves. The reason for this may be partly found in a want of knowledge of the method of cultivation, and partly in the belief that soil and climate are not favorable; but soil and climate *are* favorable, as may be seen in the town of New Holstein, Calumet county, where many thousands of bushels of rape seed are grown yearly. The cultivation of this crop is also extending in the neighboring towns. The price of rape seed has remained steady at from two dollars to two and a half per bushel, and the average yield per acre varies from ten to eighteen bushels, at times reaching from twenty to twenty-five bushels. It seems to me that my fellow-farmers will be pleased at having their attention called to a product which always finds a ready cash market, for the reason that the production is insufficient for the demand, and must be for many years. Again, it is a product which does not weaken the soil, and

helps the farmer to bring the land to such a state of cultivation and fertility as will insure good crops for several years. I will now give some directions in regard to the cultivation of rape seed for those who are not acquainted with it. The time for sowing it is from the middle to the end of June. This gives the farmer time to prepare his land, after the rest of the sowing is done. The harvest falls from the beginning to the end of September, a time when all the other harvesting is finished. It may be cut with cradle or reaper; then raked into bundles, but not bound. After ten or twelve days it can be thrashed either in a barn or on a floor made of boards in the field. May be trodden out by oxen or horses, or thrashed with a flail. It can be cleaned in an ordinary fanning-mill. To make sure of a good crop, put on 100 to 150 pounds of plaster to the acre. The plaster can be sowed with the seed and dragged in. A piece of land producing rape seed one year, will certainly yield the following year, from five to eight bushels more of wheat to the acre than it will after any other kind of grain. Two quarts of seed is sufficient for an acre. Rape seed can be had at Hamilton & Foster's Oil Works in Fond du Lac. The oil is valuable for machinery, and can be used in woolen and cotton mills. The oil-cake makes a splendid food for cattle. CLAUS OESAU.

New Holstein, Calumet Co., Jan. 1870.

[For the American Bee Journal.]

MR. EDITOR.—So much has been said by the bee-keeping fraternity about cheap hives, cheap bee-houses, wintering cheaply, etc., that we propose, with your permission, to give our views.

We think bee-keepers make a mistake in trying to get something out of nothing, or in other words, they wish to make money out of bees, and have nothing invested in them. They seem to think because the bees are supposed to steal their living, that we should steal a march on them by giving them cheap houses to live in, cheap winter quarters, and cheap food to live on. Right here is the secret of bee-keeping. On the one hand they say it costs nothing to keep bees, on the other it is the most profitable business extant, and we are apt to get as far along on these two extremes as possible. It has been said there is no royal road to wealth, and if we try to get too much for nothing, we loose sight of the many small things that go to make up the one great one.

Nowhere else does a man expect to get as much for as little expended as does the bee-keeper. The farmer if he is successful, expends double the amount for food and lodging. The merchant builds costly blocks and surroundings to make his goods attractive. The professional spends years of time which is money, in fitting up his store house; and so in every department a person must have some principal invested to be able to get interest.

Of what use is a hive that can be had for nothing, if we can make nothing out of it? We claim that more than one-half of the bees that are lost are lost on account of the hives they are put into, one-fourth on account of their winter repository, and the remainder by carelessness, except a few perhaps by foul brood disease.

To prove the above assertion, we will show that in order to get hives up as cheap as possible, they are made as small as possible. That they are made tight and warm we have no doubt, too much so. The hive being no protection in itself for out door wintering, we must have a repository for wintering them in, which of course must be cheap too. Then the bees are crowded into it, providing there were enough left from last winter's stock; and as great loss necessitates great gain the season following, so a part are weak because of so many divisions. The consequences are the weak must either freeze, or the strong become overheated.

Now would it not be better to use the same reason in the case of bees as in every thing else? "The laborer is worthy of his hire." Would it not be better and cheaper to pay five dollars for a hive that will winter a stock through or pay five dollars for five hives and loose two or three stocks out of the number? would it not be better and cheaper to pay one hundred dollars to build a good repository that would winter say fifty stocks, than to have one furnished gratis and loose twenty-five during the winter?

We believe that with a suitable hive and bee-house, bees can be wintered as safely as any other stock. Further, we believe that the loss of the past two winters in bees, can be accounted for, notwithstanding so many conflicting opinions. The fact is, they are all right, but no one in particular, but unite all of their theories and make one grand theory, and we have the answer, "What is the matter with the bees?" One gives the old age theory, and adds a unit. In the natural order of things, bees will die like every thing else. Another says, "honey dew." In some sections that too might tend to debilitate. One has too much ventilation. Another not enough;—both partly right. Dampness is given as a cause; and epidemic comes in for a claim.

Now there is not one of these theories that can be applied universally as the cause of so many bees dying the past two winters, and yet all have helped to make up a cause, each in its own section, and according to circumstances. Now you can all see that we have a theory, or we would not try to knock aside yours. So we will give it, although it may not be new, it may be to some, and if it is not right it may serve to get on the right course. We will give it all in a "bunch" and each one can pick out his favorite theory, and there will be nothing left.

First, a few old bees die (natural consequence) they fall down on the bottom of the hive, and among the combs. An unusual cold spell of weather comes on, dampness is caused in the hive, (imperfect ventilation.) Breeding is commenced, (I wonder where the nurses are.) In the mean time decomposition of the dead bees, and filth caused by dampness is going on, which is absorbed by the honey. (Honey dew might come in here.) The bees become diseased by eating impure honey, which only increases the trouble.

We have yet to see a colony of bees that have the dysentery, where the honey is in its natural state, and no mouldy combs. no dead bees, no unusual dampness in the hive. There are some stocks that are lost by carelessness, such as freezing, starving and queenless, which should not be placed on the sick list. The remedy for all this is, first, do not have the comb go down within two inches of the bottom, and the sides of the comb should be free to let all refuse fall to the bottom. The wall of the hive should be double to equalize the temperature within and prevent an excess of moisture. Place this hive, with plenty of bees and honey, and with a good queen, in a cellar where the thermometer stands at 35° above and we warrant them to winter safely at less risk than any stock kept on a farm of the same value.

Some will object to putting a double walled hive into a bee-house. "It takes up room." What if it does? we can then enclose more money in property at less cost than any other live property. The more safely the bees can be wintered, the more valuable they become, and the old adage is true in this as in every thing else, "What is worth doing at all, is worth doing well."

SESEAYE.

[For the American Bee Journal.]

Cheap Hives.

MR. EDITOR:—I notice in the A. B. J., May, 1873, a communication from Mr. Quinby on "Cheap Hives," which leads me to a remark or two on the subject with your leave.

The annual expense of a hive is not the first cost of the hive and of the right to use it; it is but a small part of that expense. A well constructed hive, if properly secured, will last twenty years. Some years since an account was published in the *Country Gentleman*, of a hive, I think in West Bloomfield, N. Y., from which the proprietor had taken nearly 100 pounds of surplus annually for many years, I think thirty. If the original cost of his hive had been $10.00, this would have been in thirty years divided into 33 1–3 cents annually. The interest on ten dollars annually, seventy cents, would bring up the annual expense of hive $1.03 1–3 cents.

The annual cost of the $1.00 hive would be interest seven cents, one-thirtieth of a dollar, .03 1–3 cents makes .10 1–3 cents annually; an annual difference of 93 cents. This difference of ninety-three cents secures $20.00 difference annually. If we now add the time and trouble of extracting and preparing 200 pounds of extracted honey for market, I think all would agree as to the cheapest of the two hives. If we further consider the fact that the hive and a sample box is $5.00, and the $5.00 for the right to make and use is $5.00 for one apiary, the purchaser may add as many hives as he pleases to place in his field. This may reduce the hives one dollar each if he uses five hives, or fifty cents if ten hives, or twenty-five cents if he uses twenty hives, and so on, manufacturing them himself, it he pleases.

I would not intimate that an average of two hundred pounds could be secured by all the hives in an apiary in either case. I have secured this in but one hive, in one season. The bees are hybrids, and the hive has bars instead of movable frames. I have no more care and trouble in managing them than in managing an old-fashioned box hive, save the taking off of boxes. It takes rather more time to take off 200 pounds in boxes than to take off twenty pounds.

My next best in one season gave me 174 pounds in boxes They were native, or black bees, and in a hive with movable comb frames. I don't know if they had been pure Italians but they would have done better.

My best was placed in the hive in 1867, and is now as promising of success this season as I have ever known it.

Postscript.—My friend, Novice, says: "Mr. Hazen forgets that he himself mentions in the *Rural New Yorker*, having given colonies young bees to strengthen them, so we need not mention other sources of information."

Had Mr. Root, (Novice) given my language it would have been more readily apprehended by me.

I have several times purchased colonies in swarmer hives, and, on the issuing of the swarm, have placed the new swarm on the stand where the old one stood, then cut out all the worker brood from the old hive, placed it in a box near the entrance to the new swarm; and split up the old hive for kindling wood. I should probably do the same with Mr. Root's hive if I had a colony of bees in it. One important element of success where we are dependent upon white clover and early flowers for surplus honey, is a large working force in the early part of the season. This I think a very important point.

With only a medium colony in a new hive with the empty hive to fill with comb at the commencement, neither the old colony or new, would do much by way of surplus. Put the working force of both into one hive and handsome surplus may be secured.

Mr. Root must be aware this is not taking frames from one hive and brushing off the bees before another to gather a large surplus from one, and have the other weak and inefficient.

Flings and flurries about patentees and patent rights weigh but little with the considerate. If the encouragement of improvements given by the laws of the country are improper or unwise, the government may be counseled to repeal the laws giving them.

Does Mr. Root take his scythe and whetstone into his meadow, or his sickle into his wheatfield to cut down his grass and grain because mowing and reaping machines are patented?

Is it more dishonorable to secure the advantages of an improvement in one useful article than in another?

JASPER HAZEN.

Albany, N. Y.

[For the American Bee Journal.]

Simplicity Bees, and Chromo-Lithographical Apiculture.

MR. EDITOR:—I have had sent to me a sample copy of the *Bee Keepers' Magazine* for April, 1873, "devoted exclusively to Bee Culture," from which I have learned much, and one very disagreeable lesson, which is, that I am more ignorant than I thought, for I did not before know that chromos and lithographs were so necessary to bee-keeping that one-fourth of the space in a magazine "devoted exclusively to bee culture" had to be "devoted" to them. Please inform me how to use them. Do you put the pictures in the hive, or outside? I see that they have to be put in frames, and therefore infer that they have to be put in the hive, if so, does there have to be a separate room for them?

But, Mr. Editor, while Mr. Dadant has been all the way to Italy for the best bees, and a great deal has been said about improved and new breeds of bees, the four enterprising editors of the *Magazine* have got ahead of all of them. On page 143. in a kind of catechism, some fellow is examining the editors on, he asks them to "describe the wings" of the bees. They all answer in a single breath: "There are four, two attached to the thorax and two to the abdomen," etc.

My bees are not a bit that way. They have not got *nary* wing on the abdomen, all four are stuck right up on the shoulders, and have no propellers behind. I suppose it is a great improvement, particularly if the hind wings are reversed, as it enables the bees to fly back home without putting them to the trouble to turn round, and it must be a great advantage when they "come at you" to sting, for they can do it far more effectually than the old fogy bees that have to make a new move of their bodies in order to get the sting in the right position, for they can straighten themselves out and come like a dart, and drive the sting home every pop. It is a great trick in case of accidents, too, for if the bee gets cut in two both pieces can fly home; the only trouble being, that the abdomen, having no legs, could not crawl into the hive!

The four editors that have got up this bee, do not advertise it for sale, but I understand they propose to give them away to all who will send enough money to pay for either of their wonderful publications and the "5 superb chromos." I don't know how much it will take, but if the editors continue to feel like the old negro in the classical anecdote they tell in their baby department, I guess they will "luf 'em down easy." Yours in

SIM PLICITY.

P. S.—Would it not be a good idea to scatter the legs a little as well as the wings? SIM. P.

N. B.—And also have a *stinger* on both ends.

S. PLICITY.

Addenda.—Them bees are as handy as the old hunter's dog, that ran so fast that when he struck a sapling with his head, he split himself in two equal halves from nose to tip of tail. The old hunter put the two halves together, but in his hurry and confusion put two legs up and two down. The pieces grew together, and he found he had improved his dog wonderfully for he ran as fast as ever, and when one pair of legs got tired, he turned half a summersault and went in on the others, and thus he could run forever, if necessary, and "never tire." I must have some of them reversible, back-action bees, even if I have to buy the chromos to get them. You ought to have some, Mr. Editor.

SIMEON PLICITY.

[For the American Bee Journal.]

From Blackhawk Co., Iowa.

AMERICAN BEE JOURNAL:—As you are such a capital fellow for informing us in such grand style in all matters relating to bee-culture, and in keeping us so well posted of the doings and sayings of brother bee-keepers when collected together in bee-societies, we thought we would show you that this cold spring has not frozen the interest in bee-culture out of us in this part of our grand young Iowa, and that our specialty is not likely to have the go-by for lack of interest.

At a meeting of a goodly number of the bee-keepers of this (Blackhawk) county, held in this city May 14th, a constitution was adopted, giving our society a name (the Blackhawk County Bee-keepers Society), and stating that "its object shall be for mutual instruction, co-operation, protection, and to promote the interests of bee-culture." F. S. Engledow, Cedar Falls, was chosen President; C. P. Hunt, Waterloo, Vice-President; Dr. A. B. Mason, Waterloo, Sec'y; and Dr. J. A. Bickley, Treas.

. Our next meeting is to be held in this city, on the last Wednesday in June; and our annual meeting on the second day of the fair of our County Agricultural Society. The secretary was instructed to put our society in communication with the N. A. Bee-keepers' Association; (and Mr. Editor and President, you may just consider this obeying that instruction, if you please.) Our proceedings were ordered published in full in our six county papers, and notice of our organization to be given to the different bee-journals and papers. Don't you see we intend to let our light shine?

About three weeks ago in looking through my colonies of bees, I discovered that my black colony (I have but one colony of blacks,) were fighting their queen. They had her by the wings and legs, and anywhere they could get hold of her, and I found it was quite difficult to release her. I replaced her on a different card of comb three times, and they seemed bound to commit murder. I believe they knew that our state had advanced so far in civilization (?) that people don't have to be hung for murder. I then enclosed her in a queen cage just as I would to introduce any queen into a strange colony, and in about seventy hours (I was too busy to release her sooner) opened the cage and let her walk out on a card of comb among the bees, and they commenced to make bows to her and accepted her in the very best style, and the next morning showed that the queen was not afraid of work, for she had added at least 2500 eggs to the stock previously on hand.

Can any one tell me why these bees tried to destroy their own queen? I have not Italianized this colony because the queen is as prolific as any Italian I have, and the workers will gather honey whenever the Italians can; and they were the first to raise brood this season, and are doing splendidly in that line yet.

A. B. Mason.

Waterloo, Iowa, May, 1873.

[For the American Bee Journa,]

Our First "Swarming."

Not to experienced apiarians do I relate the story. I would humbly beseech rather that they please to not listen. But if among lady bee keepers there be one who knows as little, practically, of "natural" swarming as did I on the morning of May 27, 1873,

"To her my tale I tell."

The morning was cool, cloudy, breezy, and I said to sister Nellie, as we rose from the breakfast table,

"We shall not be able to divide the bees today, I fear."

"Will it matter?" she asked.

"Oh, no," I replied, serenely and confidently. "They will not think of emigrating under a week—their preparations are but just begun—and in cool weather they are better off as they are."

As the morning advanced the wind died away and the sky cleared. At noon it was bright, warm and still. I noticed at this time that the bees at one hive were very quiet—scarcely a bee in sight—while at the other they were humming merrily. The first mentioned being the stronger colony, I wondered a little at their inactivity; its real meaning was clearly apparent some hours later, especially after re-reading a forgotten passage from "Langstroth." "If in the swarming season, but few bees leave a strong hive when other colonies are busily at work, on a clear, calm, warm day, we may look with great confidence for a swarm, unless the weather proves unfavorable."

An hour or so after noon, thinking the bees were making an unusual and unnessary amount of noise, I stepped to the door to see that at this but recently so silent a hive, there was now quite a commotion. Many bees were whirling about and over the hive, while more were pouring forth in an unprecedented way as to numbers and hurry. Come forth in a very *large* stream they could not. The evening before having been cold and stormy, I had shut the fly-holes and somewhat contracted the lower entrance; and as the morning had been cloudy and the bees quiet, no change had as yet been made. Now, as I stood gazing at them, spell-bound at my first surprise, there flashed across my mind the query, "are they swarming?" But it was only to be at once dismissed. For didn't I *know* that they were not ready to swarm? Hadn't I looked into the hive but a day or two before, and found in the most advanced queen-cell only an egg?

My second and accepted thought was this, that the sudden warm sunshine had given a general impetus to honey gatherers and young bees to go forth, and that the unusually narrow door-way excited and troubled them.

Still there was no cesation to the steady outward flow, and in larger and yet larger circles around and about the hive. *Something* must be wrong!

"Nellie!" I called piteously to sister in the next room, "I *don't* know what is the matter with my bees!"

She hurried to the door. "Why, they're swarming!" she exclaimed with decision.

That settled it. She spoke as one who *knew*, and my own rejected first impression came back with overwhelming conviction. They *were* swarming. What should I do?

I had no course of action marked out, because I had long before determined that my bees should not swarm. Most excellent care would I take to prevent that in these great woods, where, if they went beyond the clearing it might be impossible to follow or to find them. I had a vision of them now, sailing off over the tree-tops beyond my reach, and I felt—

I felt only that they must be stopped! now! at once!

Suddenly I remembered to have somewhere read, that the queen often does not come out before a third or a half of the swarm has emerged. It was then possible, it might even be *probable* that she was still in the hive. If so she should either stay there or be captured at the entrance.

Seizing a pail of water I rushed forth hatless, veil-less, glove-less into the midst of the throng of run-aways and began sprinkling them as they emerged. But first, with curious and absurd inconsistency—seeing how much faster they wanted to come out than was possible, and pitying their crowded discomfort—I involuntarily bent down and opened a fly-hole, and so had two streams pouring forth instead of one! (Nellie will never forget, or cease to laugh at me for *that* performance, I fear.) They beat against my dress, they whizzed by my ears, brushed my hair, grazed my checks, but I stood my ground, trying to watch both openings at once for the queen, and sprinkling the water more and more copiously as I saw that it produced no effect. I was beginning to despair, for many bees were washed down and I didn't care to drown them, much less did I wish to risk drowning my queen. Just then came a happy inspiration.

"Hand me that wide board, quick! quick!" I cried to Richard, (who is a little afraid of bees.) He cautiously shoved it within my reach. Holding it so as to throw a shadow over the entrance, I continued the sprinkling. The effect was magical.

"It *is* going to be something of a shower after all!" "The sun is under a cloud, and it rains faster than ever!" Telegrams of this import must have been sent through the hive in a twinkling, for all at once there was a sudden, an *entire* stop to the outward rush.

Then for the first time I ventured to draw a long breath, and then, too, I began to question doubtfully, if it had not been a very foolish and useless, as well as an unsafe proceeding? Was the queen out or in? The bees that had been washed down were picking themselves up rapidly, and I soon became convinced that she was not among *them*.

But over our heads quite an army of bees were whirling and swarming, now this way, now that. Once we accompanied them half way across the woods, then back to the vicinity of the hive. Suddenly they separated widely and came down to the ground, very evenly scattered over a large surface. I knew that they had missed and were looking for their queen, and I wondered if their anxiety could be half as great as mine. Rising again, they again seemed starting for the woods. But immediately returning, once more they sprinkled themselves far and near over the ground, somehow, Nellie suggested, giving one the ridiculous impression of "going down on their hands and knees" to make an effectual search. Evidently it was to them in some way a satisfying one, for all now rose as by one accord and came hurrying back to the hive, pouring in as fast as possible and covering the whole front with a black sheet.

So soon as all had settled, we lifted the hive from its stand and placed an empty hive in its stead. Then, after arranging the frames and putting in two combs of brood and honey from the old hive, we (Nellie and I) began a careful search for her missing queenship. To our joyful surprise it was not a long search. We found her as composed and dignified in demeanor as though nothing had happened, and with very little trouble we transferred her to the new hive. We found several queen-cells, the most advanced containing the tiniest of worms.

It was then, I think, that I for the first time discovered that I had forgotten my bee-veil! Of course I walked into the house for it at once.

The rest of the work, the apportionment of the remaining bees—every bee was at home—was a somewhat perplexing business. However, I used all the judgment I *had*, and if the division was not made quite as well as the bees could have made it, everything has seemed to go exactly right with the new colony thus far. With the old colony, too, all was well until—but that belongs to another chapter.

Perhaps some one, as inexperienced as myself, may be interested to know that from first to last the bees were on their very best behavior, nobody was stung.

We found a nucleus from the other hive the same afternoon, for interesting, exciting, and on the whole satisfactory as this experience had been to me, I felt no desire to repeat the same with another swarm, and in conclusion would say that I do not venture to take the responsibility of advising any lady bee-keeper to take the course of action above described.

CYULA LINSWIK.

[For the American Bee Journal.]

The Dealings of Prof. Chevalley.

Mr. Clarke and another bee keeper have communicated to me letters from Prof. Chevalley, of Bellinzona. I know that several others have received such letters, and I have read in the French paper, *L'Apiculteur*, for March, an article in which the editor of that journal says, like Prof. Chevalley did in his letters, that: "As I was unable to buy queens in Tesin on account of the low price I had offered, I was forced to get all I could find in the neighboring of Milan, in second choice queens, as to the Alpine characters."

In answer to that article, Count Visconti I. Taliceto, editor of the journal of the Central Society of Italy, in the number of April, p. 98, writes:

"We cannot understand whether the correspondent of the Parisian journal wishes to attack M. Dadant's speculation, or whether he wishes to *qualify* the race of bees that exist in Italy, and especially in Lombardy. In the second hypothesis his assertion would be erroneous. In Milan, and in High and Lower Lombardy, in the districts of Central and Lower Italy, the bees have golden stripes; they are large, gentle, active, and, in a word, possess all the characters of Italian race. They are by no means inferior, if not superior, to the bees living in the Alps, and in the Canton of Tessin, as it is easy to ascertain by visiting the apiaries scattered in the different districts of Italy.

"As a proof of our assertion, suffice it to say, that the renowned Prof. Mona, of Bellinzona, who is well known for his business in the sale of Italian queens, comes to Lombardy, and even as far as the neighborhood of Milan, to buy queens! Would he come so far if our bees were not very beautiful and pure?

"We say this, not for our subscribers. who know well enough, the race of bees of our country, but for the foreigners, who could be deceived by false or selfish assertions.

"As to the queens purchased last year by M. Ch. Dadant, we can assure that they were all of the pure and beautiful Italian race; and we are convinced that they will reproduce in America the Italian bee as pure as can be desired." (Apicoltore, April 1873, p. 98.)

I have narrated in the A. B. J. how I procured the queens. But I am unable to understand why the queens of peasants, taken from after-swarms, are less good than those sold by queen dealers, as Prof. Chevalley, in his letters, pretend they are.

Before starting for my voyage I had resolved to go directly to Milan. But on my arrival at Paris, I received a letter, saying that, on account of the scarcity of honey, it would be difficult to find a great quantity of queens to lay; the second swarms dying by hundreds. In presence of that difficulty I wrote to M. Lafranchi, at Bellinzona, who advertised in *L'Apiculteur*, queens at a very low price; directing him to send his answer to Milan. After reading my letter I thought that it would be better to go myself to Bellinzona, so as to see the man and his bees.

On my arrival at Bellinzona I inquired for Lafranchi; but the man was Chevalley* who had already sent his answer to Milan. He boasted of having received a great many orders from the United States. He was ready to sell me 100 or 150 queens at his advertised price. It was agreed between us that I should send him an order from Milan, if I decided to do so. But after seeing the bees in Milan, I resolved not to buy queens from the apiaries of the Alps.

*Last year it was Lefranchi who advertised queens in "L'Apiculteur ;" this year it is Chevalley.

At Milan I found a letter from Messrs. Gray & Winder, who had sent Chevalley $72 in gold five months before, and who had received neither receipt nor queens, (although Chevalley had received the money from the banker,) and who asked me to see him, or to write to him, in order to bring with me the queens ordered. I wrote twice to Chevalley before leaving Milan, but I received no answer.

I sent to Mr. Clarke the letter I received from Chevalley in Milan. He will see that, if Chevalley was unable to send the queens ordered and paid for months before by the American Bee Keepers, he was ready to sell 100 or 150 queens for cash. Perhaps, if I had ordered queens, giving him a part or all of the money before receiving them, I would have been sold, as the Bee Keepers, who have poured their money in his bottomless pockets. This lack of plain dealing on the part of Chevalley, shows whether his assertions are worthy of confidence.

CH. DADANT.

NOTE BY ED. A. B. J.—The letter of M. Chevalley, referred to by Mr. Dadant as enclosed to us, expresses a readiness, under date of July 31, 1872, to fill an order for 100 or 150 queens.

[For the American Bee Journal.]

Jottings.

Mr. Editor and Fellow Bee-keepers :—The experience of the last few years has been sufficiently dis strous to the small apiaries, scattered hither and thither, among the farmers of this vicinity. But while it may be admitted that to successfully winter an apiary is one of the most precarious operations with which we have anything to do, still we need not wonder at much of the loss.

One man, for instance, thinks that the best place for his bees is on their summer stands, and he therefore leaves them unprotected through the rigor of almost an arctic winter, and the result takes off all the profits!

Another has learned better than that, and therefore he moves his bees in the fall, and places them in a sheltered, sunny nook, closes up the entrances, and leaves them till late in the spring; and when he finally concludes to give his prisoners their liberty, wonders that so few leave the hive, and that those few only come out to die!

And still another commences operations in the spring, with a snug little apiary, just right for the exercise of his skill in apiculture. But he practices a "masterly inactivity" till about the month of August, and then "astonishes the natives" by announcing that his bees have not swarmed, but that he has divided them, and thus doubled the number of his stocks. He takes good care of them through the winter,

and fortunately has as many stocks left in the spring as he had the spring before.

Perhaps this pen has jotted enough for the present.

PHONOGRAPH.

Koshkonong, Wis., May 22, 1873.

[For the American Bee Journal.]

Relative Contents of Different Sized Honey Boxes.

When making surplus honey boxes, or giving them to stocks to be filled, there is some satisfaction in knowing beforehand how much a box of any given dimensions will hold when filled. After weighing a great many boxes of different sizes, and figuring it all out, I have found, as a rule, that a box when filled with newly-made comb, and the honey all sealed over, will contain three pounds of honey to every one hundred cubic inches of space contained in the box. Thus, a box ten inches long, six inches wide and five inches deep, inside measure, will contain three hundred cubic inches of space, and will consequently hold nine pounds, when filled as above stated. This rule holds good with any size of box, from about twelve pounds down to five pounds, (smaller boxes than five pounds I have never used.) Boxes of the capacity of fifteen to twenty pounds usually contain a trifle in excess of the above estimate, while those of twenty-five pounds capacity frequently contain two or three pounds in excess. I do not say that the above rule is always absolutely correct, but I have found it near enough correct for all practical purposes. HENRY CRIST.

Lake, Stark Co., O., April 4th, 1873.

[For the American Bee Journal.]

Comfort for the Persecuted.

MR. EDITOR:—On page 251, Mr. James Weddon speaks of the manner in which he is persecuted, and wishes all the information possible relative in such cases. I would say to him, and all others, that an apiary should be so situated that the bees will not attack horses, cattle, or other domestic animals when passing along the public highway or street in any village. It should also be situated sufficiently far from the bee keeper's neighbors so they will not leave their hives to sting them when on their own premises. When thus located, there is no law that will compel the owner of an apiary to move his hives outside of any corporation. And any witch-hanging or otherwise ignorant and superstitious set of inhabitants of a one-eyed or blind-horse town, or would-be-city—it being invariably this class of places that resort to such measures—who may enact a law expelling an apiary from their midst, should be taught the very important lesson of attending to their own business. This can very easily be done, by referring such cases to the higher tribunals, at the same time letting the bees remain wherever they may be situated when the case is first brought up. The statements usually made by these persecutors are that, the nasty, dirty bees get into their sugar-bowls, their molasses cans, their preserve dishes, and that they will even carry off a little honey that may chance to be in an open cupboard, safe, or pantry after they (the slouchy owners,) have bought and paid for it. Wash-tubs filled with soapsuds, 3 or 4 days old, and set in the sun during the summer, are almost sure to be visited by bees. But such vessels filled with pure, clean water, are never frequented by them, and they do not get into them except by accident, just as many other insects do. And just here the question arises as to what kind of proceedings the meddlers are going to institute against our every day insect, together with the Being who created them?

Such complaints cannot fail to be treated with ridicule and contempt when left to the decision of honest and intelligent jurors. To sum the matter up in a few words: Actual damage must be proved; and any thing that savors of careless and dirty housekeeping, will not be entertained by any intelligent court when entered as complaints against house keepers. I was once threatened just as Mr. Weddon seems to be; but when it became fully known that facts, clearly pointing out actual damage, must be established, by truthful witnesses, the whole matter was dropped. G. BAKER.

Alexandria, Indiana.

Reports, Experiences, and Opinions.

L. B. Aldrich, Warsaw, Rice County, Minn., writes, May 21, 1873:

The AMERICAN BEE JOURNAL, in the past four years, has been the means of putting more than $200.00 in my pocket!

Wm. Stump, of Cincinnati, writes, May 27, 1873:

Last week a copy of your JOURNAL came to hand. I am mighty well pleased with it. It is just what I want. No beans and potatoes theory in a bee journal for me. I want bee matter—read all I get hold of on that subject.

I take great pleasure in bees and their management. Up to this time, however, they have cost me more than I have got for their honey. My apiary house cost $100. I have had bees for fourteen years. The last 3 years I have had Italians and movable frame hives. At present I have 21 colonies, 14 of which are in the house. They are very docile, and seldom sting me. My house is so arranged that in summer I can keep the thermometer at from 70 to 80. This winter it did not freeze water, kept in a cup as a test. The inventor of the house has had it in use 7 years, and never lost a swarm in all that time. The secret is in keeping them cool and

giving them plenty of room. The coldest weather this winter I opened the hives and found them nice and dry. Their winter stores were syrup made from powdered sugar. This spring, as soon as they would feed, I gave them rye flour and syrup. They went to breeding fast, and now are in splendid condition. At the present time the locust is in bloom. Some of my hives have their boxes nearly full. I have the nicest boxes in this part of the country. They are made with four dressed posts, French plate glass, washed clean, and hold 3 and 6 lbs. Already I have taken off 40 pounds, which was snatched up eagerly at 40 cents per pound.

The winter of '71 and '72 I lost 3 hives by dysentery, which, to my mind, is caused by dampness. This winter I did not lose any, because I kept them nice and dry all the time.

A friend on Walnut hills lost 21 out of 28 hives, mostly by dysentery; another 18 out of 21; two others all last year's swarms, (10) by starvation. I look among bee keepers in this neighborhood of 2 miles, and find there are living about 56 colonies that I know of, about two-thirds Italian.

A friend just in, (Mr. D.,) took your name, and will send for a sample number. I want all bee keepers to take the bee journals. I would like them to come out twice a month.

My apiary is in Pendleton, up the river from the city four miles. I have one of the coziest apiaries in the country. I am a coach maker by trade, and have every thing around me in its place, even to scrubbing out my bee house when dirty, and carpet on the floor. Should you ever come to the city call and see me at 55 E. 5th street.

T. B. Hamlin, of Edgefield Junction, Tenn., writes, June 4, 1873:

Bees are doing finely. We are in the midst of white clover and tulip harvest.

Wm. Perry, of Lynnville, Tenn., writes, June 4, 1873:

I am but a recent reader on bee-culture, though an old man, and kept bees for the last forty-five years in the log or gum hive; but from the depradations of the moths and other inconveniences, had almost despaired of, and really was receiving no benefit from, them; not enough to pay for the hives. But last year I purchased the right to use the Langstroth Hive, and am delighted with it. I now have fifty-nine colonies in them, that I think are doing well. I cannot get along without the AMERICAN BEE JOURNAL.

J. B. Rapp, of Owensville, Ohio, writes, June 13, 1873:

We have tons of honey going to waste for want of bees to gather it. The face of the earth is white with white clover blossoms, and rich in honey.

My bees have filled their hives, and I intend using the extractor to-day.

Long live the AMERICAN BEE JOURNAL! I would as soon try to farm without a plow, as to keep bees without the A. B. J.

J. W. Johnson, of Shelbyville, Ill., writes, June 21, 1873:

Editor AMERICAN BEE JOURNAL, Dear Sir:—Allow me to say that my bees wintered well—first-rate. I left them on their summer stands, with no protection whatever, *all upward ventilation completely cut off*, thermometer one day indicating thirty-one degrees below zero. While this process may be in violation of the rules laid by the fathers and mothers of bee-culture, yet while I can go into winter quarters with twenty stands, and come safely through as long and severe winter as the last, I shall give little heed to upward ventilation. Bees, left to themselves, invariably close their hives above so as to effectually prevent the upward escape of warm air, of which they certainly have little enough in our cold prairie land. At least, this has been my experience. Bees have not done well so far, or especially, during fruit blooming time. Too much wet and cold. Yet mine are full, and I am using the extractor.

F. H. Harkins, Home, Brown County, writes:

The honey season so far, in this section, is a repetition of last year, namely: the pets are not making their own living. Too much rain. Out of 85 stocks I am now feeding 45; but I know, from experience of last year, that it is honey lent at a big per cent., for last year I fed some 80 pounds to 30 stocks out of 72, and received from the whole 5 barrels extracted of 42 gallons each, and sold about $140 worth of comb honey at 25 cents per pound, saying nothing of what was used in the family and given away.

Year before last I did better, for out of 35 stocks in the spring, I extracted 3,800 pounds, and increased them to 72, whereas last year I only increased 15, losing 2 each winter.

CONTROLLING SEX IN BUTTERFLIES.—A suggestive article as to the possibility of controlling sexes in butterflies has been communicated to the *American Naturalist* by Mrs. Mary Treat, and from the results of numerous experiments she finds occasion to believe that the larvæ to which the freshest and most tempting food was supplied in unlimited quantity nearly always developed into female butterflies, while those for which the supply of food was limited, almost uniformly proved to be males. Dr. Packard is, however, inclined to think that the sex of this insect, as well as all animals from eggs, is determined at or about the time of conception, or, at least, early in the embryonic condition. In the honey-bee, especially, it has been proved that the sex is decided at the time the egg leaves the oviduct. The sex in man, according to Koelliker, becomes fixed toward the end of the second month of fœtal life.

THE AMERICAN BEE JOURNAL.

Chicago, July, 1873.

Volume Nine.

We would remind the readers and friends of THE AMERICAN BEE JOURNAL that this number commences a new volume, and that it is now a favorable time to pay up old scores, renew subscriptions, and canvass for an increased circulation. It is not a pleasant thing for an independent mind to ask help of any sort, and especially help of the pecuniary sort; but we feel that inasmuch as this journal is carried on in the interest of the bee-keepers of North America, we have a claim on their co-operation, and as our prosperity is virtually theirs, they will, in aiding us, be in reality benefiting themselves. The great fatality among bees during the past winter has led many to give up keeping bees, and taking bee journals, it is therefore the more important that all who have faith in apiculture as a great industrial interest, or even take pleasure in it as a scientific recreation, should do all in their power to help forward a periodical which has done, and is doing, more than any other on this continent for the development of this useful and entertaining pursuit. We cannot be too thankful to many who have been and are exerting themselves to the utmost in extending the circulation of this journal. To each one of our readers we beg to say, "Go thou, and do likewise."

A Correction.

In Jas. D. Meador's communication "From Missouri," in our last number, after the tenth line, page 273. The passage ought to read, "The first award is for the best display of honey by any association, $150."

THE Emperor of Austria, in recognition of the eminent services of Dr. John Dzierzon, of Carlsmarkt, Prussia, rendered in advancing bee-culture, has decorated him with the Cross of the Knightly Order of Francis-Joseph.

WE have received from Messrs. George P. Rowell & Co., advertising agents, New York, a copy of their *American Newspaper Directory*, for 1373. It is well printed and well arranged, and will be of great value to newspapers and advertisers.

WE have received two beautiful chromos from Orange Judd & Co., Publishers, New York. An exquisite chromo, "The Strawberry Girl," for every subscriber to *Hearth and Home*, for 1873. A beautiful chromo, "Mischief Brewing," presented to every subscriber of the *American Agriculturist*, for 1873.

Queens and the Mail Carriers.

Gen. Butler has attended to the communication addressed to him by Mr. Alley, in reference to sending queens by mail, and with how little result will be seen by the following extract taken from the *Washington Chronicle*, of June 16th. "Ben. Butler has recently interviewed the Postmaster General respecting the right of a constituent of his sending small boxes containing humble (?) bees through the mail. The Postmaster General reminded Mr. Butler that those who handle the mails complain of such packages, that the bees invariably become released from their stronghold, and cause the postman annoyance and trouble by being stung by the bees. "Well," says the Hon. B. B., "I can't imagine why so much consternation and complaint should arise from sending a few bees through the mails; those mail carriers make more fuss over a couple of bees than congressmen do in drawing their back pay."

Samson's Lion.

Our friend R. M. Argo, of Lowell, Ky., has written us a brief dissertation on the above subject, with a view of correcting the erroneous ideas many readers of the Bible have, as to a swarm of bees being found in the carcass of a dead lion. Some, he says, take the language in its literal meaning, and believe that there were really bees and honey in the dead carcass before the flesh had been destroyed by dogs and birds of prey, which were numerous in that country. Mr. Argo states his own views as follows: "These bees, according to Kitto's Bible History, must have been identical with the Egyptian of the present day; and, as they were very numerous in Canaan at that time, and hollow wood was scarce, they were apt to take up their abode in any hollow cavity they could

find, and as only a few days would suffice for flesh of the lion to become devoured by dogs and birds of prey, and the bones to become dry, it is natural and reasonable to suppose the swarm of bees established themselves in the cavity of the lion's skull, which is amply large enough for a swarm of bees." He adds, "If there is a better explanation, please give it."

While there are some credulous people who are quite willing to believe that these bees, contrary to their usual instincts, actually took keep their abode in the decaying and putrid flesh of the defunct lion, there are others, who, knowing that bees will not even alight on a dead carcass, find a difficulty in reconciling the Scripture narrative with the well-known facts of natural history in regard to the habits of bees. Mr. Argo has no doubt indicated the right way of removing this difficulty, though we think he is wrong in supposing that the bees "established themselves in the cavity of the lion's skull." That would be too small a hive for an average swarm of bees, as even Mr. Argo must admit if he reflects carefully on the point. There is no reason to think the lion was one of unusual size. It is described as a "young lion," but this does not imply that the creature was immature or half-grown, as the original rather conveys the idea of a lion in his youthful prime and vigor. It was then, an average adult lion. Now how much of a cavity would there be in the skull of such a lion? We have looked up this this question in some natural-history books, in the hope of meeting with actual measurements that might help us out, but have not succeeded in finding them. From an engraving of a lion's skeleton, contained in one of these books, we are convinced that the skull-cavity is quite limited in capacity. The head bones are very massive, to give that strength of jaw for which the lion is remarkable, while the brain is small, and flattened out broad and shallow, as in all creatures of the cat tribe. The cavity in question might hold one of Mr. Hosmer's quart stocks, but certainly would not accommodate a good, natural swarm.

There is, we think, "a better explanation." It is that the bees took up their abode in the body of the dead lion. Insects are very abundant in the East, and they will, in a very short space of time, completely clear out all the soft parts of any carcass, leaving the skeleton entire, covered by the skin. It is not necessary to suppose that "dogs and birds of prey" ravaged the lion's remains. In a place far enough from towns and villages for a "young lion" to be prowling about, it is not likely that dogs, at any rate, would be numerous. We have only to suppose the skin left comparatively whole, and the flesh eaten and picked out by insects--especially *ants*, which are very numerous in Oriental countries—and, the softer parts being removed, the bones and skin deprived of their moisture by the heat of the sun; and we have a hive which few swarms of bees would refuse to occupy. The skeleton would be covered with a sort of dry parchment, and, the interior, clean, sweet, roomy and convenient, would be a likely place for a swarm of bees to enter and take possession of, especially in a secluded spot, among the grape-vines.

This is the view taken by Kitto, who says, "In the East, bees establish themselves in situations little thought of by us; many wild swarms being left to find homes for themselves, fix in any hollow which seems to them suited to their wants. Often in the clefts of the rock, whence the mention of 'honey out of the rock,' (Deut. 39:13); often in trees, whence the mention of the dropping of the honey-comb,—a singular instance of which we have in the case of Jonathan, who found honey dropping from the trees to the ground, in his way through a forest." (1 Sam. 14:25, 26.)

Whether the bees were "identical with the Egyptian of the present day" or not, is a point it is not easy to settle. According to N. C. Mitchell, a stock of Egyptians would have given even Samson some trouble, if he undertook to rob them of their stores. But the lapse of three thousand years may have made some change in their disposition, and a variety of bees quiet enough to let Samson rob them with impunity, may now, as the result of crossings and habitudes, have become of a more warlike turn.

A Few Facts About Bees.

BY THE EDITOR.

Successful bee-management must of necessity be based on correct knowledge of the instincts and habits of bees. These have been thoroughly studied by naturalists, and are fully expounded in works on insect life, which are deeply inter-

esting, apart from their bearing on bee-culture an industrial and remunerative business. In fact, we know parties who keep a hive or two of bees, just because of the interest and pleasure they feel in observing their wonderful ways.

Without going into the minute details which a thorough naturalist would be curious to master, there are certain facts capable of being put into small compass, with which it is absolutely necessary every bee-keeper should be familiar. These we propose to state in this article.

Bees are of three kinds. Every complete hive or colony, contains one queen, a number of drones, (the fewer the better,) and a multitude of workers "the more the merrier." The queen is the only perfect female, and lays all the eggs from which the other bees are produced. The eggs are of two kinds;—the one hatches into drones, or male bees, while the other produces as a general rule, workers. These however, are simply undeveloped females, and every worker-egg is capable, under special treatment, of developing into a perfect female or queen. The special treatment consists in building what is called a queen cell, a roomy, pendant receptacle, somewhat resembling a pea-nut; housing the egg or young larva therein; and feeding it with a peculiar substance, known among bee-keepers as "royal jelly." This food has the effect of fully developing the young female, so that she comes upon the stage of life, fully qualified to increase and multiply. Instinct impels bees to raise queens when the hive becomes very populous, and swarming time is at hand, also when from any cause, the colony is deprived of its queen. Only one queen is required or allowed in a hive at one and the same time, and when from any cause, there is more than one, the workers kill the superfluous queen, if she be a stranger and interloper, or the reigning queen will kill the young rival who may have been hatched in the hive. Some times a queen will wander into the wrong hive, at other times bad weather prevents swarming, though the preparations have been made for it, and in such cases, queen slaughter is very apt to take place, unless as often happens, the workers protect the young queen until circumstances are more propitious for swarming.

Within from three to five days after being hatched out, the young queen issues from the hive on what is prettily called her "bridal tour,"—courtship, marriage, and impregnation being all accomplished on the wing, during a brief flight. Only for this purpose does the queen ever leave the hive, except when a swarm issues. One impregnation lasts for a life time. Before it occurs, strange to say, the queen has the power to lay drone eggs; afterwards she is capable of laying both drone and worker eggs. It sometimes happens, that a queen fails to meet a drone at the proper period for fertilization. She then becomes a drone-layer, and with such a queen, a colony is irrevocably doomed to extinction. This and other facts in the natural history of the bee, show the utility of movable frame hives, which admit of examination, and enable the bee keeper to remove a drone-laying queen, and give the wasting colony a fertile queen, or a brood out of which to rear one. The queen-bee is endowed with wonderful prolificacy, and when honey forage abounds, instinct prompts her to put forth all her energies in the direction of fecundity. It has never been ascertained what is the utmost egg-producing capacity of the queen, but she has been known to lay as many as two thousand eggs in a single day. Her prolificacy is regulated by the food supply, and hence it is the policy of all good bee-keepers to stimulate by feeding in early spring, in order that there may be a large force of workers ready to take the field when the honey harvest arrives. The average life time of a queen is about three years, but it is considered wise policy not to let her live to old age, but to replace her in good season with a young and prolific successor. Worker bees are very short lived, not averaging more than about three months in the busy season. Incessant labor seems to wear them out very quickly, and their places are filled by the new generations that come crowding on to the stage of being. Drones are reared only in the spring as the time approaches for swarming; and as the honey harvest draws to a close, they disappear, usually as the result of a general massacre, on the part of the workers. In an apiary, even a small one, but few drones should be allowed to each hive. Here the movable frame hive again displays its utility, as the bee-keeper can, by its use, remove drone comb, and substitute worker comb for it. The queen lays drone or worker eggs, according to the size of the cells that are available for her to deposite her eggs in. Drone comb is easily distinguished from worker comb, as it is much larger. Drones gather no honey, they are consumers only, and of course are a tax and burden on the productive industry of a colony. Their only function is to fertilize young queens, and in view of the facts above stated, it will readily be seen, that very few of them in each hive will suffice to secure the end for which they exist.

The worker, as their name denotes, are the laborers, and perform a variety of tasks. They keep the hive clean, feed the young brood, cater to the queen, build cells, gather pollen, propolis and honey, defend their home from invaders, ventilate the hive in hot weather, and warm it in cold weather. Their operations are carried on with wondrous system, a sort of military order and discipline being maintained in the hive.

Pollen which is the farina of plants is collected as food for the young brood. Propolis is a resinous substance used in filling up cracks, and fastening combs or frames. Honey is gathered

not made, by the bees, it being a natural secretion in most flowers. Beeswax is not gathered but manufactured by the bees, and the process may be watched in an observing hive when comb building is going on. The bees fill themselves with honey, hang in clusters or chains, and by some internal process, secrete the wax, which may be seen exuding from between the scales of their abdomen in the form of little white scales. These are taken up by fellow workers, and formed into cells, which are built with true mathematical precision, and combine strength with the least expenditure of material, in a manner which has excited the wonder of philosophers, and formed a theme for poets in all ages. The manufacture of wax and the building of comb, occasion a large expenditure of honey, and hence it is good policy to preserve and utilize comb as much as possible. It lasts many years, if taken care of, and the extractor or melipult, is a most valuable invention, because it enables the bee-keeper to obtain honey without the destruction and loss of comb.

The eggs laid by a queen-bee hatch in three days into small grubs or worms. These are fed and nursed until about the eighth day when they become nymphs, and are sealed up in their cells, whence they issue perfect bees. A queen matures in from ten to seventeen days from the laying of the egg; a worker in twenty-one days; a drone in twenty-four days.—*Canada Farmer*, May 15th, 1873.

[For the American Bee Journal.]

Iowa as a State for Bee-Keeping.

Mr. Wm. C. Merrill, on page 140, December number, says he has wished that he was in Iowa or some other good place for bees, etc. I have been requested to give the readers of the A. B. JOURNAL my opinion of Iowa as a place for bee-keeping; but, as Noah Cameron says, my extreme modesty has always prevented it. When I moved from Wisconsin I selected my locality with especial reference to bee-keeping, and thus far (eight years) I have not been disappointed. We have first, in spring, sap from sugar-maple, willows, soft or white maple, poplar or Quaker asp, as some call it, of two varieties; then, wild currants, wild gooseberries, wild red and black raspberries, wild plums, wild apples, and wild cherries, three varieties, and wild grapes, three species of wild thorn, three varieties of elm and sugar or rock maple. All the above are in profusion. Then there are the tame or cultivated fruits, acres of wild apples, plums, currants and gooseberries. Then the sumach produces large quantities of pollen, and, some seasons, honey. Thousands of acres of timber are interspersed with basswood, and in some places very thickly. The burr-oak produces an abundance of forage in its season, and even timothy or herds-grass and corn come in in their places. Buckwheat produces abundantly, and there could never be a soil better adapted to white clover than the soil of Iowa. It comes in naturally everywhere. Then we have fall or prairie flowers, consisting of so many varieties—that I do not know the name of—that I will not attempt to name them, but the principal among them are queen of the meadow and golden rod. We also have a species of wild balm, in bloom in August, that produces large quantities of excellent quality of honey, of a peculiarly rich, golden color. The locust-tree also, in its season, produces abundantly. Then there is a mustard, catnip, etc., etc. In fact, if the weather or season is right, there is a continual succession of honey-producing flowers from early in April until into October. Now, the reader will readily see that in our poorest season, if the bees are kept in the right condition, they will store enough for their own use and a surplus. The past season has been as good as any that I have seen since I came to the State, and twenty-eight stocks, in just eight days, gave 1,600 pounds of surplus besides building large quantities of comb at the same time. One stock, that had no comb to build, stored 160 pounds in the eight days, an average of twenty pounds per day. After the eight days' yield my stocks gained steadily, but very slowly, up to the middle of September, and all went into winter quarters heavy with honey, except two stocks, and they have sufficient to winter on without any feeding. My increase was eighteen stocks from thirty-two. Should the spring open up good I shall have from six to eight hundred pounds to extract.

E. GALLUP.

P. S.—I have never had to feed in the fall since coming to the State. My bees have always stored sufficient for their own use. But if we had depended upon comb-honey the past season, we should have got almost nothing.

E. GALLUP.

Chicago Honey Market.

G. BAUMEISTER & CO.

Wholesale and Retail Dealers in

HONEY & BEESWAX,

231 West Randolph Street.

Will pay for choice white box honey 25@30c. Fair to good 20@25c.

Extracted, choice white 12@16c., fair to good 10@12c. Strained 8@10c.

Beeswax 30@33c.

AMERICAN BEE JOURNAL.

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[For the American Bee Journal.]

Novice.

DEAR BEE JOURNAL.—Our friend Wagner once remarked, that in giving such abundant freedom on these pages, much error might get in, and for a time prevail, but that truth *would* come out, and would eventually *rise to the surface.* It has seemed of late that our communications made more trouble than they did good, judging from the pages of the JOURNAL; but the opening article of the July number indicates that we have at least one friend who does not hesitate to say *through* the JOURNAL that *he* understands our motives and approves our course. Could Mr. D. (who is, by the way, a perfect stranger, and alludes to a simple transaction we have no recollection of now), have seen the thanks expressed on the face of a "little woman," (aye, and of a "blue-eyed baby of seven months, too, whom we feel sure rejoices at his well-timed blow, that clenched a nail just in the right place,) we think words would not have been needed to assure him that a few at least appreciated his kindness.

On page 11, Mr. Silsby speaks of those whom "Novice has so mercilessly punched." Now our friend is in error, for we have not punched any one, or at least did not mean to, but we have "punched" hives (full of holes, we hope,) and statements, too, when they were gross exaggerations. For instance, when some one to "sell rights" leads beginners to expect that 100 lbs. of box-honey or more may be obtained per hive, on an average, we shall remonstrate with all our power. "Rights for sale" are almost dropped, for hives arranged exclusively for the extractor; and, as a consequence, a strong effort is made to persuade the public that an equal amount, or some even claim greater yield can be obtained in boxes.

Kind readers, what do you suppose is the average yield of honey per colony, the country over, when box-honey is relied on? In our locality, for the five past seasons, it has not averaged ten pounds. The localities have not been overstocked either, for since we have given the subject attention we have remarked that this class of bee-keepers seldom keep more than a half-dozen colonies, and they lose in wintering more than their increase in poor seasons, so that they run out every few years and are obliged to buy again.

In Medina county we have now, perhaps, a dozen bee-keepers, with from twenty-five to seventy-five colonies each, who use the extractor. These apiaries yield a sure, steady income, but they pronounce box-honey as uncertain, even with the best hives for the purpose advertised *in this journal*—that they have laid them aside.

Do not our JOURNALS, all of them, in narrating the extraordinary yields from solitary hives, give a beginner a very erroneous idea of bee-keeping? Disappointment is the rule—almost. Is it not far better to look the matter fairly in the face, and accept the fact: that bee-keeping is really a business of uncertain profits as a general thing?

Mr. Alley, for instance, will have it that we have taken delight in injuring him, yet it seems that he should know better. His hive was attacked with all others of that class, as being too uncertain in their results, but not the man at all. When he first commenced the business of rearing queens at a low price, within the reach of the masses, we heartily approved of the course, as the great number he has sent to our county at different times, to those whom we advised sending to him will attest. When he advertised rights for sale for his hive, we mentioned what we knew of the hive. His charge, that we have nowhere given Mr. Langstroth credit, is ludicrous. Do not our advertisements read "Langstroth hive, as we make them," and was not our three-page description closed with a full statement that it was Mr. L.'s hive, of course; and did not Adair say, and Burch *echo,* that we had "*two-story Langstroth hive on the brain?*" Since writing here, we have been obliged to insist, periodically, that we had no interest in the Langstroth patent. Ain't you ashamed, Mr. Alley?

Jasper Hazen's plea that our country granted him a patent, is an old joke. If all patents

granted were valuable, or *valid* even, what a nation we should be. Bless your hearts, all ye that write about cheap hives. Hazen's hive, Quinby's hive, and Alley's hive, *too*, can *all* be made Simplicity fashion. We will halve in the corners, make them stronger and tighter than any you have seen, for $3.00 each, all but the boxes; and there ain't any patent on them every one knows. Bless our stars, there we are —talking "things for sale" again, and how we'll catch it." Well, Mr. Editor, we will recall it, and say that we will furnish directions on these pages (with measurements in full), so that any factory, where they have the proper saws, will make any of the hives for $3.00 each, without frames or boxes. The hives shall contain all the essentials for securing large amounts of box-honey, but may not have some of the items generally found; for instance, wire-cloth tacked over holes for ventilation; *our* bees so invariably wax up that we omit them and thus save them the trouble. With Simplicity hive entrance it can be enlarged enough to give all the ventilation ever needed. The $3.00 includes the case entire, for any possible yield of box-honey, and this case can just as well be made to take such frames as you already use, thus saving transferring when you exchange, or when you wish to "split up" the "Eureka" when you are tired of it.

If Mr. Hazen will throw off the other $5,00, and make hives for box-honey, without any "right," we'll help him to make 'em and help to sell 'em; and if we find any "t'aint good" we'll help "split 'em up" with all the pleasure in the world. Oh! we forgot about the infringing. Well, we will tell how to make all hives we know of—patented or not—where two stories are used, for $1.00 per story. Adair's "Long Idea" hive, as described in the Journal, $2.00; all hives that depend on placing boxes enough on at the beginning of the season, to contain all the honey, $3.00 each. Frames can be made from one cent each all the way up to ten cents each. Boxes are out of our line so much that we don't know what they cost; Mr. Quinby furnishes good ones very cheap, and we think our bees don't half appreciate them or they would build combs in them and fill them with honey, but they haven't yet. *Oh, yes;* "infringements!" Well, the hives we mention will infringe on no patent, except Langstroth's, and we don't know how to make a bee-hive of any use whatever unless it does infringe there. We wonder how many of our successful apiarists have thought to inclose a post-office order for $5 or $10.00 to our old friend *direct*, telling him that it is only a part of the debt we owe him for his services. We know of no other way, at present, of showing him that he is not forgotten.

Mr. Silsby on page 10 certainly is in error in saying, "who has not forgotten the ridicule with which Novice greeted" Gallup's proposal of directions for one dollar, etc. Ridicule came from all sides it is true, but *none* from Novice as may be seen by the back numbers; they are now (bound) at our right hand and are handy always. We think we made no mention of the "dollar," until Gallup began to "pound us," and that was the "effect it had."

It is not improbable that we have been sometimes slightly arrogant and too positive. Mother used to tell us so long years ago, and punishment used to have a good effect at times, but we think she used to remark that "a very little went a good ways with Novice," and we hope such is the case yet. We read the Journal to her now at times and get scolded (we mean remonstrated with, she never knew how to scold) for being so "sassy" to the veterans in bee-culture.

Mr. Hosmer, on page 10, would make one think he was a "cruel old chap," but he aint, "'cause we've seen him."

You ain't fair, Mr. H., but as the same pages answer you fully we need not.

Is not sugar a safer and healthier food for wintering bees than honey? There are answers from all points it seems to us. It matters little who has the credit so we *do* succeed in wintering. We should like to hear about the bees you lost, Mr. H.

We have at this date, July 12, just about one ton of very nice honey from 56 colonies and the yield seems to have about ceased. We are hoping "ever so hard" that it may yet recover, for basswood is not yet in full bloom, but fear the dry weather in June has again cut it short, however, our apiary is all slicked up, everything in "apple pie order," and we are in a humble state of mind, ready to be thankful for any favors that may be in store for us in the way of honey.

Mr. Editor, ain't you afraid if your children quarrel so much that other "good children" won't play with us. Of late a great part of the communications have been from those who had, —there, we won't say it. But why don't Grim write, and our friend Price, too, the "revolvable and reversible."

If he can raise good queens every time, he can have our hat, "laurels" and all, if they are not all torn off in the seige we have passed. We think good, "tip-top" queens for each hive are all that is required to make the poorest gather as much honey as the best, and we are at work now replacing all poor or middling queens for new ones until we *get* those that do rear brood in such quantities as they should.

Where is Miss Katie Grim? has she got married too, and ceased to exist in her own individuality? For fear Mrs. N. will come round with the "blue-eyed baby" and raise a row generally at that last expression, we will make haste to subscribe ourselves, still

A. Novice.

Mr. Editor:—P. S.—Tell all our friends that don't like us, that "we forgive all" unkindness

and will try and be good hereafter. We presume we should add that we are sorry for our past errors, but on thinking it over we really don't feel so, *very much.*

P. S. No. 2.—We forgot to tell friend Keller, on page 8, that we use the cover hinged like a chest or trunk, for the same reason we hinge the cover of a trunk, viz; because 'tis handier; but, "bless you," we don't have bees on the cover, never. Our quilts fit down over the frames so closely that no crevice permitting a bee is allowed. You *must* have quilts with Simplicity hive, and one great advantage is that the quilt made for the lower story fits equally well the upper.

By the way, a keen business friend remarks that "the best apple tree in an orchard may always be known by the "number of clubs scattered around it and lodged in its top." Verily the number of clubs that have been hurled under the caption of "cheap hives" would seem so, and they are directed mainly at something the writers have never seen at all.

Did any one ever call the Langstroth hive a cheap hive? and yet Simplicity, as we advertised it was just that and nothing more. A carpenter if asked to make a single one would tell you at once the latter would be most expensive to make. It is only by reducing it to a few simple parts and making them by machinery that expense is saved.

We have never claimed bees would store more honey in them than in the usual L. hive, or *any other*, but only that they are stronger and more durable; and lighter and easier to handle. We pride ourselves on having the *best* implements in our apiary known, and then if expense can as well be saved we dispense with all useless appendages at once. Our bee-house cost us over $200 because we wanted it efficient, durable, and easily kept clean. If any one thinks we have no taste for a pleasant place to work in they had better make us a visit. We are going to have a photograph of the whole, next week, and will send you one, Mr. Editor.

On the other hand, we dispense with Mr. Langstroth's portico because it's too much trouble to get out the spider webs every morning and "chase the spiders," besides making the hive unwieldy. The Simplicity hives are this season giving us the best results of any, and for no other reason we know unless it is because they are so much tighter and closer than our L. hives. Well may Mr. Doolittle, page 7, say that "smothering can't be done" in cool weather, and it is the entrance we are particularly well pleased with, for it admits no wind or cold storms even if it is not closed.

If extra ventilation be given elsewhere than at the entrance it will be used as a passage way, and then when closed in cool weather bees are lost, if covered with wire cloth it is soon waxed over. Are not "ventilators" almost as "big a humbug" as moth traps? As "dollar" hives are now made in so many neighborhoods, without fear or favor of "patent rights," we think even Mr. Alley will not make the charge that our "sole object" is wanting to "sell 'em."

P. S.—Mr. Gallup we won't "peep," again about "old bees" until you give permission. *Great is truth and will prevail*, and so will "sugar syrup" now, even, with—nothing more from

NOVICE.

[For the American Bee Journal.]

Brood vs. Pollen.

MR. EDITOR:—We find Novice asking this question, "If any one ever raise brood where there was an entire absence of pollen?" We answer, yes. About twenty-two years ago we tried an experiment that proved to us that bees could raise brood without pollen. At this time we had not read the mysteries of bee-keeping by M. Quinby, neither had we seen Mr. Langstroth's work, but some little works, such as Townly, Weeks, Colton, and others had come under our notice.

We thought if we could prove to ourselves some one of these things found in said books, we should have greater confidence in their teachings, and we selected for our experiment this, Do bees secrete wax, or do they gather it from the flowers? So we got made to order a hive of glass, except top and bottom, this was wood. Now, Mr. Editor, don't laugh. But into this beautiful little octagon hive we managed to bungle a swarm of bees, or we should have said a part of a swarm. For some of them got drowned in honey and some went dead anyhow, but enough were saved for all purposes.

This hive was empty except a little strip of comb 1x2 inches stuck to the top. As soon as the bees got quiet we removed them to a warm upper room over our store house, and close to a large chimney that was constantly warm, and by hanging up some carpet all was made dark. This was done in the last week in November.

Next we constructed a feeder for water and honey, and fed daily all they would carry away, and in about a week beautiful white combs could be seen on all sides of the hive, and the hive a little more than half filled.

Not one bee had ever left the hive, but at this time the little chaps positively refused to work any longer. So we removed the feeder and made all dark, and left them, satisfied with the result.

But about a week or so after this we went to see if all was right and found about half the bees dead on the bottom board. The rest were snugly stored in between the combs. We then carried the hive to a window and inverted it. The bees then began to move, so we gave them a little smoke from our pipe to make them go back, and it was then we discovered brood

We then made a full examination as to how much, and found four sheets, and it reached down within an inch of the bottom of the comb, enough to fill a frame a foot square. They had also stored enough honey to live on till March first.

About the last of March I transferred them again and found considerable brood from the egg to the hatched bee.

J. Butler.

Jackson, Mich., June 27, 1873.

[For the American Bee Journal.]

Pollen.

Mr. Editor.—I send my fare, two dollars, for a passage in the good old ship, and I hope all will be prompt in sending in the needful in order that you may be enabled to run the *craft* with entire success; and if the following few lines will serve as ballast, throw it in with the rest:

In the June number, Novice "would really like to know if any of our readers have ever seen brood reared when there was an entire absence of pollen." I, for one, never have; and, furthermore, I will venture the assertion, without much fear of contradiction, that bees cannot be raised without it any more than a hive can be kept in good condition any length of time without honey or its substitute, sugar. This is a subject that I have been much interested in for some time, but, so far, have failed to gain much, if any, information upon it. If Novice will turn to Vol. VII, page 90, he will find Querist No. 2 having the same difficulty, and asking the same question. I have about come to the conclusion that it is a subject but little understood, even by our best, practical men, and I am satisfied, from my small experience, that a great deal of so-called bee disease in the spring is attributable to the want of pollen.

Argus.

[For the American Bee Journal.]

Jubilant Over the Extractor.

Dear Bee Journal.—This is the best year for honey, in these parts, that I have ever known. I lost all my bees but one stock during the last two winters; but, am not discouraged, having got two others this summer. One of them is the largest swarm, I think, that I have ever seen. It is two weeks, yesterday, since it was hived, and I have taken over seventy pounds of honey from it already, and the white clover is better now than ever. Of course, I used the extractor. I had to do it or the queen would have had no chance to lay her eggs. I must just say, that they had very little comb to build, as I have plenty of nice, straight worker-comb.

About that extractor. I got the description in the A. B. Journal three years ago, and immediately got up one, and I consider it worth all my subscription to the Journal. I am the only person about here that has one. Some of my neighbors thought it a humbug until this year, when their hives got too full of honey and I slung out a few combs for them, since which time they have changed their tune.

What do you think of the new name for the slinger, that I heard the other day? A party, on being told that he had better get one, asked if it was a *sucking machine.*

As white clover is still in full blast, and there is lots of basswood hereabouts, I expect, in the next two weeks, to throw out about a hundred pounds yet from my large swarm. I have tried Novice's plan, of placing one hive above another, with this swarm and like it very much, but the way that queen lays eggs since I commenced to give her room, is a caution. I am almost afraid she will fill both hives with brood, when I shall have to put on a third one to get honey. Its a regular race between her and the bees, as the combs I emptied on last Saturday, and on Tuesday the bees had filled one-half with honey, and the queen the other half of each comb with eggs. I never saw anything to equal it, and a black queen at that. Hurrah! for big swarms, honey-slingers and the American Bee Journal! Geo. T. Burgess.

Lucknow, Ont., July 2, 1873.

[For the American Bee Journal.]

Novice's Articles.

Mr. Editor.—I see by the June number of A. B. Journal that Mr. Alley feels pretty sore because Novice persists in exposing patent hive venders. Novice is, I presume, capable of fighting his own battles, but as he has written for the benefit of us bee-keepers, rather than to fill his own pockets (Mr. Alley's insinuations to the contrary notwithstanding). I think it is no more than fair that we should let Novice know that *we* appreciate his articles. I can say, with R. M. Argo, it is well that friend Novice's articles are first in the Journal, as we should certainly turn over till we came to them if they were not. Perhaps if Mr. Alley had *read* Novice's articles in the A. B. J. he would not have accused him falsely, as he has in the April and June numbers.

Since writing the above we have received the July number and are glad to see Mr. Doolittle's defense of Novice. I hope Mr. Alley will not be afraid to read the article on the first page, because it is headed "Novice."

Minnesota. S. Rowell.

[Translated from the Benenzeitung.

Extracts From the Proceedings of the German Bee-Keepers' Convention, Held at Latzburg, Sept. 10, 11 and 12, 1872.

In what manner can He Bees be prevented from making useless Excursions in search of Honey during the early spring months?

Dzierzon.—It is known to every beginner in bee-culture, that when bees have been confined for two months, perhaps for nearly a quarter of a year, through raw weather, it is absolutely necessary that they have an opportunity for flying; since should they be too long confined, imprisoned as it were, they will be in great danger of suffering from dysentery. And it is just as well known, that should the bees, after having enjoyed their purification flight, be drawn out by the warm sun, and tempted to fly, they will be apt to receive great injury. The bees consume a great deal more than they would otherwise, since they are seduced into an earlier rearing of large quantities of brood without having the proper strength to care for it, besides, by repeated flights many of the bees are lost, owing to the raw cold winds. The queens increase their fertility uselessly, and old ones may perish without the hive being provided with the power of rearing a successor.

It is also certain that these useless spring-flights are injurious to the stock, and it is highly necessary that these dangers should be prevented. The remedies are various. The best is placing the stocks in cool, and where possible, in dark rooms.

We have learned from many years' experience that is a most advantageous plan. But when there are no opportunities for using the remedy the hive must be left on its accustomed stand. Another very simple remedy is shading the hive, especially the entrance. It is almost always the tempting sun that draws the bees out. If the entrance is protected the bees will remain quiet until the temperature becomes even. Naturally every occasion of disturbance must be avoided. Especially must frequent feeding in early spring be avoided, as through nothing more than this are the bees rendered restless and seduced to a useless and injurious excursion.

If feeding be necessary, let it be done at one time, in large quantities, which will last for a long time. It is the best to give the food in sealed combs, which can be placed near the bees, so that they can reach their supplies even when the weather is cold.

Giving food in small portions and in liquid form, even in later and warmer periods of the year, I have found to be very injurious. It is always followed with injury, should it tempt the bees to fly out, when there is nothing for them to gather, and nothing for them to do.

Dr. Pollmann.—Although we have along the Rhine, in spring, some fine sunshiny days, yet we have not steady, warm weather, during which the bees can fly without injury, hence the entrance must be protected. The bees fly out readily, but should the air become cooler, they become so stiff as to be barely able to reach the hive. My remedy is to place a small board over the entrance, slanting it so that neither the rays of the sun, nor the warm air can enter the hive. The ends of the blocks are cut out so as to allow a side passage for the bees, but not entrance of the deceiving rays of the sun. The bees find no difficulty in leaving or entering the hive. I have received the greatest advantage from the adoption of this plan.

Radlow.—I would but add that it is very advantageous to have the hives facing the north. If the ground before the hives be not naturally dry it should be drained.

Sartori.—In Italy, the entrance to the hives is large, 1½ centimeter high, and as wide as the inside of the hive. Thus we lose few bees except such as are sick and instinctively leave the hive. In very high hives we have two fly-holes.

On the question whether any general rules or laws can be made for controlling the conduct and product of the Apiary, Herr vs. Rothschutz, among other remarks made the following:

I come now to not the least weighty factor of governmental co-operation—*statistics*. The digestion of all the data gathered by individuals, bee-keepers, and associations, is plainly the duties of the State. Statistics are our safest teacher, and alone puts us into a position to cast aside the non-essential and to place in a clear light the essential or necessary, and at the right time and manner to comprehend and spread these deductions.

To the merchants of Europe the unity of weights and measures are of great value; and of like value to the bee-keeper will be the adoption of a uniform size of hive, which the change from immoveable to moveable comb-hives renders imperative.

Sartori, of Italy.—What advancement in bee-culture we Italians have made during the last few years we owe largely to the uniform width of our combs. Without this unity we could never have come so far. Every German who visits Italy will be astonished at what has been accomplished during the last few years. And for this we have to thank the uniform size of combs. We all learned this from our old masters in Germany, and this uniform size, adopted by the General Apiarian Association of Italy, has been productive of the most wonderful and priceless results. Formerly a stock cost 20 francs, now it is sold for from 5 to 7 francs. Every carpenter makes his hives after one model and of one size.

At our last meeting we thought of the army, and portioned out two hours in the evening,

especially in the winter, for teaching the soldiers bee-culture. Many of these soldiers, between 24 and 28 years of age, will, when their term of enlistment expires, return to their farms and undertake bee-keeping.

Among our successful bee-keepers we number many noted generals. We have many retired military officers, to whom a knowledge of bee-culture would be of much value, hence I have urged its being taught in the military schools.

Can the time be to the day accurately named when a young qeen completes her developements, understands her bridal trip and begins laying? when does her desire for impregnation begin, and when after impregnation does she begin to lay?

Dr. Dierzon.—There is an occasion for this question. Our organ, the *Bienenzeitung*, has published the observations of a Frenchman, Collir, by name, I think, who undertook to prove that the development of the queen, the time in which she would make her fertilization flight, and begin to lay, could be calculated to a day, and even to the hour.

To all this I reply, "no." The time will not allow itself to be set. The gentleman, no doubt, made observations that forced him to these conclusions, but if he had made them for a series of years, and at various times during the year, and in different localities, he would have come to widely different conclusions.

To the first clause of the question, "Can the time be to the day named when a queen completes her development?" I answer, "no." Cases have come under my observation in which queens have developed themselves in nine days.

In nine days from the time, when the stock was deprived of her queen, or brood for queen-rearing was presented to them, have I found the queen out of the cell. But in most cases the queen does not leave her cell until the tenth or eleventh day, which plainly shows that it would be impossible to fix the day, much less the hour of hatching the queen. Her development depends on the age of the larva from which she is reared, the strength of the stock, the temperature of the atmosphere, and many other modifying circumstances.

Under certain circumstances a young queen might not hatch out under twenty days, should should an unhatched egg be chosen from which to rear a queen. A sudden cooling of the cell might also hinder the hatching.

A somewhat accurate date can be given to the question, what is the earliest time that the young queen will leave the cell, reckoning first from the time of the commencing of the cell, and second from the time when the egg was laid. In answer to the first portion of the question, I would say, in nine days; to the latter portion, I would reply, fifteen days; though in general the average from ten to sixteen days.

Just as the time for hatching of the queen varies, so also is it impossible to fix with certainty the time when she is ready for fertilization, and will fly out in search of the drone.

The before-mentioned observer, I believe, fixes the time between the sixth and seventh day. But this time cannot be limited to a day. Is the weather warm, and does a vigorous life rule the swarm, so will the development of the whole stock—its common bees, as well as queen bee, greatly hastened, under other adverse circumstances, all development will be hindered or stopped entirely. For preparing the young queen for fertilization, it is necessary that she receive nitrogenous food. A young queen will sooner become fertilized when placed in a hive to which young brood has just been given, i. e., an afterswarm, and which is busily engaged in building, than in an old stock where work is proceeding more leisurely.

I have known instances in which the young queen has sought the drone on the third day, and on the fifth day began to lay. A queen bred late in the fall, often lays no eggs during that year; but if she does lay, it will not be until the lapse of some days, even weeks, whereby the increase of the stock is greatly hindered. In spring and early summer, the body of the young fertilized queen swells almost immediately, because the stimulating food she has taken tends to the early development of the egg, and an observation made about forty-eight hours after copulation will generally show a number of cells filled with eggs.

In my judgment the time for the hatching of the queen, the period of her fertilization, and the time when she begins to lay cannot be accurately fixed to the day and hour, since the difference of the conditions and surroundings are so many and various, which will either hinder or advance the development of a swarm.

Herr Vogel.—If we search for grounds from theory and observation upon which to answer the foregoing question, we must say: The desire for fertilization develops in the young queen first, when she is called upon to rule the hive. The queen of an afterswarm will hence be earlier in heat than that of the mother stock, which is, perhaps, still piping in its cell, when the other has begun to lay eggs. It is well known that the queen of the mother stock, even although she may be done ruling in the hive will be later in heat than the queen of an afterswarm. The reason of this has not yet been fully explained. Is a young queen ruler of the hive, she will seek the drone as soon as the germinating eggs (Eikeime) enters her oviaries. Why these germinating eggs should appear earlier in the oviary of some queens than of others, is owing to the individual character of the queen, to her nourishment and surroundings.

To the second part of the question I would answer: That the young queen begins to lay

almost immediately after her sexual desires have been gratified; while she is in heat she will not lay an egg. Should the queen remain unfertilized she will commence to lay drone eggs in four or eight days after her sexual desire passes away. should this take place in the early summer; should she, on the contrary, become fertilized, she will begin to lay eggs in about forty-eight hours after impregnation. The reason that an unfertilized queen should begin to lay somewhat later than a fertilized queen, is explained by the fact that the bees care less for an unfertile than a fertile queen, and furnish her with less food, thus delaying the development of her oviaries. That a queen fertilized late in fall will generally not lay till the following spring is well known.

Should the bee-keeper furnish the bees of such a stock for two or three days food, the entire hive will be stimulated to new life, and the queen will receive rich food, and even late in autumn she will begin to lay. This is one of the safest ways of determining whether a queen hatched in fall has been impregnated, for should her eggs produce workers there is no longer any doubt as to her impregnation.

SARTORI.—We have also a doubting Thomas in Italy, who causes us shame by the nonsensical stuff he publishes in the newspapers, in contradicting which our bee-keepers have to waste much valuable time. There is a gentleman in the United States who has offered to pay $10,000 for fifty queens fertilized in confinement. We believe in the conclusion arrived at in Germany, that it can never be done.

Concerning Artificial Honey, and the Latest Discoveries Relative to the Preparation of Wax and the Nourishment of Bees—Address of Dr. C. Th. Evon Siebold.

The readers of the *Bienenzeitung* will, doubtless, remember that some years ago a large Agricultural Fair was held at Munich, in which one branch was devoted to bee-culture. The Bavarian bee-keepers exhibited here many articles of interest. Among the articles exhibited none attracted more attention than the articles of Mr. Mehring, of Frankfort, which received the name of artificial honey (Kunsthonig). Even Baron Leibig took great interest in this artificial honey, on account of the dispute, whether the honey obtained by Mr. Mehring through feeding his bees with malt extract was true honey, whether the bees really prepared this honey, and whether through eating this malt sugar it would be transformed into honey. As the possibility of bees preparing honey from malt sugar was on many sides denied, it is of so much the more value, that Baron Leibig took the matter in hand chemically analyzed this malt honey or so-called Mehring artificial honey and compared the result with the like analysis of true or natural honey. Baron Leibig, however, was prevented in this proposed examination of the honey agreed to be sent to him by Herr Mehring, on account of the resignation of his assistant, Dr. Schneider. The Baron desiring, if possible, to obtain a practical bee-keeper as well as chemist to aid in this investigation. I nominated Herr Vogel, of Lehmannshotel, as arbitrator of this investigation, in so much as I well knew that no one could bring to the undertaking more skill, impartiality, and correct judgment, than this our much honored bee-keeper.

Herr Schneider had also determined to include in that investigation the preparation of wax. But before these weighty experiments could be brought to a conclusion they were stopped by the acceptance by Dr. Schneider of the position of Chief of the Chemical Division of the Royal Mint at Petersburg.

As I knew that this convention would be interested in these experiments, with the advice of Baron Leibig, I wrote to Dr. Schneider, asking him to communicate to the Association the results of his experiments and investigations relative to the wax and honey questions. Dr. Schneider has kindly responded to my request, and I have now the pleasure to lay his report before this convention.

Communication of Dr. Schneider to the Thirteenth Annual Convention of German Bee-Keepers.

I.

Concerning Pollen and Wax-Building.

An examination of the Literature of Apiculture discloses a great number of interesting observations made by intelligent bee-keepers on the origin, progress, and life of the bee. Men of science have also been interested in the bee, especially zoologists. Authorities like Siebold and Levekant have undertaken the most beautiful experiments. On the other hand, chemistry, and especially physiology, has in a very different manner studied the nourishing products of the bee and their secretions, with the exception of wax, although for ten years, the consumption of food by the bees has been means of deciding weighty chemical physiological processes, as for example, the production of fat.

Instigated by the artificial honey exhibited at Munich, last fall, by Mehring, I determined on a series of experiments to illustrate the production of wax and honey. The results thus far obtained in this field I have published in Leibig's Annals of Chemistry and Pharmacy. The experiments relative to pollen and the production of wax have perhaps less value to bee-keepers than to physiology; briefly shall the results I obtained be given; while this is an undisputable fact, that wax is a secret of the bee, an acknowledgement won from so experienced a naturalist as Hoppe-Seyler, who, at the late meeting of the Society of Naturalists gave as his understanding this: That there is no ground for the acceptance of the theory that wax is produced out of the body of the bee, but much

rather that it is gathered from plants, the natural production of which it is.

Accepting this idea of Hoppe-Seyler, it must follow that all the wax, used in the construction of the combs, must be gathered, and should be found in the pollen or in the gathered-in nectar, since pollen and honey (excepting water and propolis) are the only matter borne into the hive by the bees.

By a careful examination of the gathered pollen, published in the before-mentioned treatise, it was made evident that the wax could not possibly be brought into the hive with the pollen. It is well known that bees when fed on wax-free honey will shortly begin to build comb, and that if pollen be mingled with the wax-free honey the wax-building will still go on, hence it is plain that the wax must be produced not from the pollen but from the bee itself.

[TO BE CONTINUED.]

[For the American Bee Journal.]

Cheap Hives and Winter Protection.

In this latitude, 39° 30', and district, southern Ohio, the question of the best plan of wintering bees is a very difficult one to answer, with any certainty. The range of the thermemeter in ordinary winters from the middle of November to the middle of March is 10 °a x 60°, and in exceptional seasons, 25° a x 70° Fh. Sometimes for one or two weeks continuously in December or January 50° a 60° and higher. Therefore, to winter in close repositories, either in cellars, or above ground, where the bees are not free to fly in suitable weather, is very difficult, if not impossible, to do successfully; and if left on their summer stands, without protection, if the winter is severe, many swarms perish, and most that survive come out with but few bees, and little honey.

In conversation with a friend of experience in bee culture about these difficulties, he suggested making a framework of convenient length to hold, say three tier of frames, one above the other, according to the accompanying plan, each colony having its distinct place, permitting examination, and all in compact form, so that they can be covered at will, and be in the best shape for retaining heat, at the same time having all the ventilation needed. Extending this idea, based on the fact that the different colonies, in close proximity and breathing the same atmosphere, would dwell peaceably together; I queried whether I could not have a hive in which a number of swarms, not only could winter together, but work together, at least along side of each other. I had a hive made as follows: the floor 12x2 feet, box for frames 11½ ft. x 15 in. wide x 13 in. deep. The top is beveled off sharply, to a line only, for the frames to rest on, so that they can only be lightly fastened, and there is plenty of space beneath to take hold of the ends of the frames. Front and rear strips rising respectively two and four inches higher than the top of the frames, with ends to fit, are screwed or nailed around the top of the frame box, to form a chamber above the frames, and support for the covers, five in all, and together, of same size as floor. The top of this upper chamber is also beveled to avoid crushing any bees when the covers are replaced. To give winter protection, a strip of board three inches wide, raised one half inch to afford passage, is laid upon the floor in front, and upon this an outer box made around the hive, of height, front and rear, to suit the slope of the roof, and size, to leave two inches alighting space on the floor in front, the space between the boxes to be filled with any convenient nonconductor of heat. To use as a two story hive, make a second box of suitable size and shape, and set on the lower, keeping it in place by standards, four or six in number, screwed or otherwise fastened to the lower box. To prevent the hive spreading in the middle, nail a small block in front and rear, and put through, near the top a one-fourth inch iron rod with head and thumbscrew.

About May 1, I placed six swarms, with hive-frames of comb each in the hive, sprinkling all first with sweetened water, scented with ess. pep; and for further protection separated the colonies by frames covered with wire gauze. There was a good deal of commotion the first day, occasioned by change of hive, and slight change of location, but after that time, all went quietly as before the bees were transferred. After two days I took out the wire frame between two colonies, and in a week had all out, without any difficulty occurring. I used the extractor only occasionally in this hive to prevent the filling of the brood comb too much with honey, and supplied the bees with empty frames for surplus honey outside the brood combs as fast as they were able to fill them. About June 1, I took out one colony, as they were getting crowded. It was soon evident that the colony at either end was inclined to work towards its neighbors, rather than to its own end of the hive; and as they neared each other, to throw out wings of comb across the open space. These were cut off, and used as squides on empty frames. When the gaps were filled, the bees of adjoining colonies used indifferently the same exits, and I have no doubt mingled in their work. All have kept their separate queens and brood, and there seems no danger of queens trespassing on each others territory. If the hive is used as a one story hive, I would make the tops of the frames fit closely with a segment of a circle cut out of one side of each at the middle for winter passage, across the frames, under the covering, to be closed in summer, unless boxes are to be placed for surplus honey. in which case as many openings could be made as necessary. The tops of the frames should also

be made as long as the width of the upper chamber, with a half circle cut out at each end, large enough for the forefinger, by which to lift the frame. As there should always be some short space between two colonies, these close tops give great facility of handling the frames, by inserting the blade of a chisel or a screw driver between the frame you want to lift and either one adjoining, you have plenty of leverage to move easily the whole of that side together, as the frames rest on a line only, and there can be no squeezing of the bees between the combs, or disturbance in any way.

The chamber above the frames, two inches high in front and four in the rear, (to give slope to the roof,) affords plenty of room for winter covering, and as the roof-sections can be only slightly attached along the line of support even if the bees have free access to this chamber, the roof can be removed and replaced without disturbing them. The depth and shape of of this upper chamber can of course be made differently, if further trial recommends a change.

The bees of all the colonies in the hive can be interchanged in any way advisable; for instance, if your colonies are all of only moderate strength and not prepared to take advantage of any sudden great yield of honey, you can remove one half the colonies, and the old bees returning will make those left of abundant strength for gathering the harvest; after which they can be restored to *statu quo*.

A fertile queen can be kept on every frame, by inserting between the frames one of wire-gauze occupying little space, and permitting the combs to be so close that there is no loss of heat; as it is only necessary that the queens should be kept separate, the workers going at will sociably and amicably any where in the hive. Wherever wintering on the summer stand is practicable with such protection as can be conveniently given, I think this hive suitable. With frames 12 in. square, nine are abundant for each colony, filling a space in length of 13 in. A 12 foot hive will easily contain ten colonies or 90 frames. Each end colony has three sides exposed inside of your single hive, and the others only two. Above you can make the covering two inches thick, and around as much as the climate demands, by extending floor and roof, if necessary.

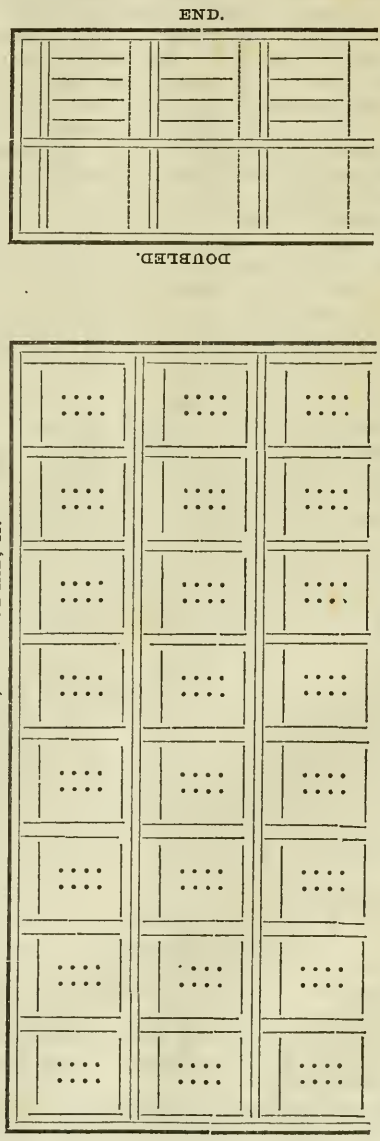
As a nonswarmer it ought to work well, for comb can be given as fast as it is wanted; and, what I think is the important point, given before the colony feels at all crowded, or even full. And if the adverse opinion, that the brood comb should be away from the entrance, is correct, the frames can be arranged at will, so that the bees work from either or both ends. The next and last point I shall touch is the cost. Cheapness, if nothing important is sacrificed to it, is very desirable. A hive 12ft. long, with floor and roof 2 ft. wide, as described takes

88 ft. lumber, common, planed, $2.50 per 100 ft.,	2.20
90 frames, at 2c each,	1.80
Iron rod, ¼ in, and nails,	10
	$4.10
For outside box for winter, say 30 ft.,	75
Total,	$4.85

Use 16 or 20 foot lumber, and the cost is reduced, but this is *cheap enough*.

J. H. Peirce.

Dayton, O., July 12, 1873.



Front and End Views of Frame Work for hanging Frames containing Comb, Honey, and Bees in Winter Room.
FRONT VIEW 24 COLONIES, OR DOUBLED, 48.

Space occupied for Frames 12 inches Deep and 15 Long on Top. Forty-Eight Colonies, 12 ft. long by 21-2 ft. by 5 feet High.

[For the American Bee Journal.]

Do Bees Injure Fruit?

Dear Editor:

I noticed in the *Weekly Tribune* of June 25, an article on the destruction of fruit by bees, which coming from a man claiming scientific knowledge of the subject, constrains me to make a few comments. After an indictment against the bees for destroying fruit by one "Penn." this sapient Prof. Riley (of what I know not, though I trust not of theology), quotes one Widandy of Jeff. Miss., who says he lost his entire peach crop in 1872 by the ravages of bees. The learned Prof. suggests that legal redress is impossible, but very decidedly advises his bee-hating friends to cultivate milkweed, the gluten of whose bloom adheres to the bee and it soon falls down and dies. Or again, this modern Borgia suggests sweetened water and cobalt, which kills every bee that partakes. Again he says the bee-martin should be encouraged for their bee eating qualities. What shall we think of a Prof. who promulgates the doctrine that the useful honey bee that gathers honey from a thousand flowers that would otherwise waste their sweetness on the summer air, should be devoted to wholesale devastation. He further says that he has known an apiary so decimated (probably by his advice) that one half of the hives gave out.

I am not a scientific man or a Prof. but am a practical apiarian of many years, and a close observer of the habits and instincts of the honey bee, am bold in my contradiction of the Prof. when he charges bees with the intuitive in destroying grapes, peaches, plums, and pears. I have an orchard of four acres of many varieties of fruit, in the suburbs of a city of 18,000 people, with many near neighbors, who also possess fruit, and I or they have never suffered from the depredations of the bees on fruit.

I have watched them closely and attribute the whole trouble to two reasons: the hornets and wasps, and the nature of the fruit operated upon. It is well know that the Delaware grape and many varieties of thin skinned plums and pears, when dropsical with their juices crack open, their saccharine matter exudes and decay follows. Bees, ever on the alert for forage feed upon it greedily. In every instance that has come to my notice, and they are many, fruit is first punctured by wasps and hornets, or yellow jackets. They are the burglars who have broken open the store houses and the bees follow in their wake. Hornets and wasps alone possess the mandibles equal to the task of cutting the skin of the most tender grape, pear or peach, and I challenge the Prof. to show a well authenticated fact to the contrary, or that bees are rogues as charged.

Again, I would say the Prof. has been deceived or has deceived himself, when he says bee-martins or king birds destroy bees. Three years ago I shot many of these birds after their scanty repast around my hives, and in every instance I found after dissecting their stomachs, what? honey bees? No, not one! But the black ant, larvæ of the bee moth, and in two out of ten birds a drone bee. So I think the Prof. will be obliged to hunt up some other agent for the destruction of bees. I could wish they were all as harmless as the bee-martin. I too encourage the bee martin but from a different motive, believing them to be the best scavenger I have in destroying insects, and the moth larvæ.

I cannot think so ill of any one as to suppose them desirous of the wholesale slaughter of the paragon of insects, so useful to man and one so self supporting. If Mr. Riley is a Prof. of theology, his advice to make war upon the honey bee is strangely at variance with that divine precept, Love your neighbor as yourself, where he advises the people to poison his neighbor's stock, and I deem him a fitting candidate for the attention of Bergh, and did I know the address of the Prof. I would advise Bergh to have an eye on this man of science, for I know not how far his apiphobia may carry him with his poisonous suggestions.

Chas. D. Hibbard.

Auburn, N. Y.

[Translated from Kleine's Bee Journal.]

How to Peaceably Unite two or More Swarms.

The bee-keeper is often under the necessity of uniting several swarms. This is the case about swarming time, when he will often be compelled to unite two or more swarms. This happens especially with after-swarms, of which it will often require several to make one good one. In these and various other cases must the bee-keeper unite his stocks. The danger then presents itself to the bee-keeper that he may lose a portion, perhaps a large portion, of his united stocks by their fighting among each other, while by judicious management hardly a bee will be injured or killed.

In accomplishing this union there are two questions of importance:

1st. When shall the union take place?

2d. How shall it be accomplished?

When the union takes place the bees themselves teach us. Do two colonies unite, when swarming, the bees mingle together without anger, no bee through hostility injuring another. While the swarm is settling the assembled bees appear to think of nothing but the act of swarming, not even guarding their queen, as the bee-keeper discovers, when a young queen is placed in a virgin swarm and the old one killed.

Does the bee-keeper desire to unite his swarms, he should do it on the same day on

which the swarm makes its appearance, or very soon thereafter. Has the swarm occupied its hive already for a week, and possessing brood, the work of uniting will be more difficult. For performing the operation, I prefer the night to the day, for then the bees are at rest and all gathered into their hives; during the day, owing to the coming and going of the workers, the strange bees are stung and killed, being taken for robbers, and hence attacked. The actual uniting I accomplish in this manner: I destroy the sense of smell in the bees, so that they will take the strange bees for their comrades. Many bee-keepers use only tobacco smoke, which they blow into the hive. Better, in my experience, is sprinkling the bees in the hive in which the strange bees are to be placed, with thinned honey. Then the bees to be united are sprinkled with the same honey until they are quite wet, and thrown into the other hive. Through the jar occasioned by casting the strangers into their hive, the bees will be so disturbed, so terrified, that they will not think of the arrival of the strangers. When they undertake to lick the honey from themselves they will become friends, and through the honey receive the same scent. Never, since I adopted this method, have I had a single bee stung. Many bee-keepers, and I myself, often made the bees walk through fresh dewy grass. The reason why the bees will allow themselves to mingle by this method lies in this, that the fresh, damp grass removes the individual scent of the bees. To me, however, sprinkling with honey appears to be the safer method. An old plan now comes to my mind, that instead of honey-water, wine was used. This plan has certainly been proved; the ground on which it is based is apparent at once—no! the reader without doubt knows what I want to say—I would rather stick to my old plan.

W. Luhmann.

Bardowreck, Oct. 4, 1872.

[Translated from the Binenzeitung.]

Enemies Changed to Friends.

With beginners it often happens that, not taking advantage of the counsel of old, experienced bee-keepers, they undertake to winter weak swarms and lose them. Nevertheless, this misfortune happens also to experienced bee-keepers wintering healthy and strong swarms, as for instance, the winter of 1870–71, or as it was this winter in this locality when—since the 22d of October until now—not a bee has been able to leave; and, judging from appearances, will not be able to leave for a month yet. While the bee-keeper is mourning over his dead pets, he should study how to make the most of the leavings of the dead swarm. In the hive will be found, especially if it contained a swarm of some years standing, beautiful comb which can be used again after the removal of the dead bees hidden in the cells. How can these dead bees be removed from these combs with the least possible injury to the combs?

It is not long since I began to keep bees. I have taken the *Bienenzeitung* but lately, but in that time—about seven years—I do not remember seeing, anywhere, any plan or suggestions for removing the dead bees from the cells. Generally such combs were thrown into the kettle and melted. This is not, however, the most economical use that these combs could be put. In the absence of a better and cheaper instrument for cleaning these combs, I use—*risum teneatis, amici*—mice, who, though considered enemies of the bees, willingly undertake the office of grave-diggers; nor do they hesitate to disinter the dead, and thus, through willingness, they change from enemies to friends. I sustain the sentiment of Dzierzon, given in the *Bienenzeitung* for 1871, p. 6, in reply to Dr. Preuss: "In nature nothing is useless, not even the bee-moth. Think of the caves or crevices in which the bees dwell, when wild, for hundreds of years. They would not be able to remove the old wax and renew their combs. Here, now, comes the bee-moth and accomplishes the work of destruction." The same is true of what I have just stated. Quicker and more artfully can no one remove the dead bodies from the cell than do these mice. In a place frequented by mice, especially near the bee-hive, set the combs filled with dead bees, and even box-hives containing immovable combs, so that the mice can get on all sides of the combs, and after two or three nights he will find the combs cleaned out, and the dead bees on the ground beneath the combs. This work, which to us is so tedious and accomplished only with great injury to the comb, the mice do with little or no injury, save here and there a cell may be destroyed, in which the bee may have been more tightly wedged or in which there may have been pollen, which they also remove when there are no more dead bees to remove. Now, as during this winter, many stocks will doubtless be lost. I think it would be well for the bee-keepers to hand over their combs to the mice, and not throw them into the kettle to be melted down. I trust that mice will no longer be regarded, by our writers, as enemies to the living bees, but as a friendly and skillful aider in cleansing the disordered household.

T. Sliwka, Pastor.

Tritiesch bei Teschen in Silesia, Feb. 2, '72.

[For the American Bee Journa,]

Sundry Items.

The Journal looks quite tasty, and I am sure its many readers will appreciate what is to be found between "its covers."

Page 225, vol. viii., Brooks—suspend your combs on rabbets in a tight box, with space

between combs, examine occasionally; and those that show signs of worms give a light brimstone smudge. As to the best method of artificial swarming, that depends a good deal on circumstances. With your amount of extra combs, we should raise queens about the time bees *should* swarm. Divide by removing half of the combs with adhering bees to new hive, then fill both up with empty combs, placing the hive *without* a queen on the new stand, and should give that hive only one-third the brood, introduce a queen next day, and in a few days exchange combs with hive on old stand, so as to give hive on new stand two-thirds of the brood.

The reason so much should not be taken when, division or swarm is made, is because a considerable portion of the bees will return to the old stand and there might not be bees enough to cover the brood. In 1870 I made between fifteen and twenty in this manner with good results.

Page 256, Eh Schulze.—The true theory *is* to have the greatest working force when honey is most abundant, and *early feeding* will give that, you failed in allowing them to swarm when you knew the natural supply would soon be exhausted, as soon as the hive is *full* of bees, give more room either by combs, boxes, or both, then when bees *should* swarm contract amount of space by removing some if natural swarms are wanted. Sometimes bees will swarm with an abundance of storage room. In each case where not wanted or out of season, remove all queen cells and return swarm.

Novice.—As to "rights," that is found in March No. of the Journal. But the right *we* mean is, that of any to give their experience on any point pertaining to apiculture, also fair criticism where difference of opinion may exist, for by "comparing notes," we may bring out something of advantage to all. My experience the past two severe winters is, that it is *far safer*, as well as more economical, (on account of smaller consumption of honey,) where bees are wintered on summer stand, to use "double walls," with packing all around, as well as on top, between brood chamber and outside case. Again: speaking of the "Coming Hive" No. 10, p. 220, you hope our honest, earnest bee-keepers will help him work out the problem. I wonder how near "Scientific" thinks my "Section Hive" comes to filling the bill?

1. The hive or brood chamber, (composed of sections and side walls, and open at top and bottom,) is adjustable to any size, therefore can be worked as a swarmer or non-swarmer, and is arranged so as to receive boxes; on sides right against combs and above are top-bars, or for the Extractor Sections of combs are added on both sides.

2. The sections are worked one story, and as they form the brood-chamber or box, in connection with side-walls, can be shallow or deep, as the owner wishes. I use 12 inches deep by 16 inches long. Seven sections for a box on some, others 10 inches deep by 16 inches long. Eight sections to a box; it is best, however, to use only one size in an apiary, as the bees cannot glue the sections together, they are easily removed without jarring, and, as before stated, my number of sections, from one up to fourteen, in connection with side-walls, form a brood-chamber, thus rendering a division board altogether unnecessary.

3. The brood-chamber can be lifted right off from bottom-board, and away from case altogether. Now, "Scientific," I think I may be reckoned as one that approaches the "Coming Hive." J. E. Moore.

Rochester, Pa., May 14, '73.

[For the American Bee Journal.]

The "Dollar Hive."

Although "Novice" has repeatedly disclaimed offering a complete movable comb-hive for sale, for the low price of one dollar, yet from the fact that he offers a *hive* for one dollar, and that we hear it spoken of as the dollar-hive, it is apt to lead some astray, especially those who are not fully posted as to what constitutes a complete movable comb-hive, and make them think they can get such a hive very cheap, when in reality they cannot.

Messrs. Root & Co. offer to furnish simply a plain box-hive, with no frames and no place for surplus honey receptacles, either in frames or boxes, for one dollar. Such a hive, of course, no one wants, without some additions to it at an additional cost. The box is arranged for frames, and they are easily supplied. And in order to have a place for surplus honey receptacles another box has to be added, as there is no cap nor place for a cap to hold the surplus honey boxes or frames. All these add to the cost of the hive, and by footing them up we can see what the "dollar hive," as made by Messrs. Root & Co., will cost when complete:

1 plain box-hive - - - -	$1 00
10 frames, 6c, - - - - -	60
1 box-hive for surplus, etc., - -	1 00
10 additional frames or boxes for surplus honey, - - - - - -	60
1 quilt honey-board, - - -	25
Total, - - - - - - -	$3 45

Without leaving out one single item that can be dispensed with in order to have a complete working hive for surplus, either in frames or in boxes, we have a hive that costs $3.45; and if we add the door-step and hangings, not to name other little fixings recommended, the cost will be fully $3.50. But I am not complaining of the price, nor objecting to it in the least, but to prevent misapprehensions I simply state the facts. There are many persons who do not wish

to use frames or the extractor for surplus honey, who would have no use for the upper story, and the single lower story would be of no use to them, and they could doubtless buy the same kind of hive, arranged with cap for surplus boxes, for less money.

For my own use I want the two stories complete, so that I can use either frames or boxes as I like, for I always wish to have some box-honey for my own family use, if not for sale. And I think that "Novice" deserves great credit in getting up such a hive in its simplest form, and that it well deserves the name of the "Simplicity Hive" if not that of the "Dollar Hive." T. S.

[For the American Bee Journal.]

Bees by Mail.

Mr. Editor.—Can you not say something more to the purpose to the P. M. G. than the Hon. B. B. said, relative to sending bees by mail? Does it not belong to you, as a person likely to be listened to? According to your report, Butler plead for the right of sending "humble (?) bees through the mail." Very many want to send honey-bees, with the queen, in that way. I saw a report that the Assistant Postmaster had decided adversely; that some postmaster and his clerks all got stung, and the honey put in with the bees leaked out and soiled other postal matter. This, of course, was objectionable. Suppose you examine, for him, a little further. See if the "bees invariably become released from their stronghold, and cause the postmen annoyance and trouble, by being stung by the bees." Ask him how they become released, except by unwarrantable intermeddling. The package can be examined through the wire cloth; the bees seen, and not one escape except let out intentionally. As for their stinging, while shut up, every one acquainted with them knows that, in ordinary handling in the postoffice, not a sting will be received. This objection, then, can be dismissed. That honey may run out and soil other matter, when improperly put up, is the only real objection stated. This can be obviated. It is no longer necessary to put in the honey to sustain the bees. I have repeatedly proved that two or three lumps of loaf-sugar, half an inch square, and a small piece of sponge, moistened with water, is all-sufficient for several days. To satisfy you that this will sustain them, and the package be no more objectionable to the mail carriers than a thousand other things that they dare not exclude, I will send you a package containing a queen and a few bees, put up in this way. You can then have confidence to appeal to headquarters. Our postmaster is willing, and does his duty. If you think it would be any advantage, and receive attention, I would send one to headquarters, that they might have oracular demonstration that the matter had been misrepresented. M. Quinby. *St. Johnsville, N. Y.*

[For the American Bee Journal.]

Out-door Wintering.

On page 4 of the July number of the A. B. Journal, "Indiana" asks: "Can we not have, through the Journal, some more definite instruction for out-door wintering, from men who have had good success the past two winters," etc. We think that the troubles of the bee-keeper would diminish surprisingly if all the conditions necessary to successful out-door wintering were better understood. Our opinion is, that many of the ills to which bees are innocent victims, are the result of improper management and the consequent abnormal relation in which they are placed to their natural habits of life.

We have been keeping bees here in Kansas for six years, and have always had the best of success wintering them out-of-doors. Occasionally we have put a few of the weakest stocks in the cellar during the severest weather, but with all our attentions to them they have generally proved to be about worthless in the spring. Robber bees are peculiarly attracted to them—not so much, apparently, in consequence of the scarcity of the bees, or superiority or inferiority of their honey, as from the lack of energy to defend themselves. We think that *banging* them around, when they ought to have been kept quiet is what did it, subjecting them to too many climatic conditions, thereby causing them to do much that they would not have done had they fully realized all the facts in the case. We know that vegetation sometimes springs forth in the early spring, only to be cut down by the frost. The warm sunshine and showers, with balmy breezes, were conditions that made the tender plant peep from the sod, but to it they were illusory.

The honey-bee partakes, we think, to a more or less extent, of the susceptibility to surrounding conditions manifested in plant-life, and is influenced greatly in all it is and does by these causes. Hence, we should here learn an important lesson about the proper care of bees in winter. All that we learn about taking care of our orchards and their products, should stimulate us to analogize regarding those natural conditions under which the honey-bee should be placed.

To treat bees as mere animals falls far short of what their normal relations to their surroundings would seem to require. We do not claim to be announciating anything new to bee-keepers, but we claim that successful out-door wintering results mostly from practical conformity to the *natural* wants of the bees. But a further consideration of this subject will have to be left for another article.

M. A. O'Neil.

Black Jack, Kan.

[For the American Bee Journal.]

Wintering Bees in a Clamp.

Being desirous of putting my bees in some kind of a repository, burying them in a clamp was suggested to me by reading the plan of Pastor Scholtz, in Langstroth on the honey bee, and Klanke in the October number of the Bee Journal.

The first days of November I marked off a space on dry ground 24x8 feet, and threw out the earth to the depth of two feet. Through entire length of the center of this pit I dug a trench 2 feet deep and 2 in width, for an air chamber. At either end of this pit 2-inch ventilating tubes 3 inches in diameter were placed running to the surface outside the clamp when covered, at an angle of 45 degrees, across this trench from side to side scantling were placed 8 feet in length and 2 feet apart over which to place the hives, the trench serving the purpose of an air chamber beneath them. Set a post at either end of this trench 8 feet long and 8x10 inches, over which I placed a ridge pole 24 feet long 6x6 inches, and equal distance from the ends, placed under it supports to keep the roof from yielding to pressure. Put on rafters from the bank to ridge pole 8 feet long 3x6 in. wide every 4 feet and covered with roof boards as you would do in shingling a barn. Any old boards planed the way of the rafters would direct the moisture from the inside should it reach them. Left a hole in the side large enough to put in my hives. Put in a tube 4x4 near one end for upward ventilation, and another 2x2 in. in the center of the side to put a thermometer in which I attached to a rod that I might note the inside temperature daily. Another thermometer was placed 12 in. from my bed room window, on the north side of my house, for outside observations. Put on 6 in. straw and 12 in. of dirt, and all was ready.

On the 20th of Nov. the thermometer being at 32° and cloudy, I weighed each Langstroth hive after removing the covers and marked the weight on the portico of the hive. 42 swarms were thus placed side by side forming just one course over the surface of the pit. 100 swarms could be placed in a clamp ofthis size, but mine was made permanent and for future use. All bottom ventilation was stopped, and the honey boards placed crosswise the hive next to the bank of the pit; thus they were half uncovered; and with much trepidation at my boldness in hazarding so much on an experiment, I bid them a good night's rest, and left them to darkness and quiet, sealed up the entrance uniform with the rest of the clamp and it was done.

How will it end? was my anxious questioning during the long and extremely cold winter that followed. My thermometer was compared daily at 8 a. m. in the record that follows. One of the 3-in. ventilators was open all the time, the others were closed in extreme cold weather. I am certain that more ventilation would be beneficial, by putting an upright one 4x4 in the center for reasons that follow.

WEATHER REPORT OF '72–'73.

1872, Nov. (11 days,) inside the clamp, 39°
" " outside, max. 42° min. 18°.
Average for month outside, 28°.
Dec. inside the clamp, 39°.
" outside, max. 42° min. 4° below.
Average outside, 18°.
1873 Jan. inside the clamp, 39°.
" outside, max. 34° min. 8° below.
Average outside, 20°.
Feb. inside the clamp, 39°.
" outside, max. 42° min. 6° below.
Average outside, 18°.
Mar. 20 days, inside the clamp, 39°
" " outside, max. 42° min. 6° bel.
Average outside, 22°.

Thus you will see the temperature inside did not vary from 39° during 120 days, while outside we had polar winds and arctic cold with very much snow and 16 in. of ice in our streams. Not a day from the 20th of Nov. to the 2d of April that bees could fly without chilling in this latitude. Many bees were dead the 1st of Jan., and all for want of a cleansing flight had soiled their combs badly, and were in a comatose state.

Comparisons to be just must be made in the same localities. One neighbor lost 45 out of 79 hives, another 60 out of 70, another 7 out of 9, another 34, all he had, while at this date, July 11th, they have barely reached the swarming point. While from mine I have at same date taken out 700 pounds box honey and made 18 swarms, and still they are working with a will.

To return to my subject; my bees had been confined 120 days, and though the weather was below the freezing point and snow deep, I dared not leave them longer So the 20th of March I opened the entrance to the clamp the earth was frozen 10 in., 2 in. unfrozen, straw damp, roof boards dry outside, inside some moisture had settled upon the roof and a slight mould also. A bee on the wing met me at the entrance with a joyful hum that gladdened my heart—did not find them torpid—they were thickly clustered on the top of the frames and edges of the honey boards, found *not a comb* that I here discarded from mould, and from one to three frames of brood to the hive. Thus disposing of the theory that bees will not breed in darkened confinement. Found 1 queenless hive dead, and 3 three comb under that I had used for queen rearing, and ventilated the same as full hives, they could not keep up the requisite heat. Another hive had but a pint of bees but a fine Italian queen. I gave brood from time to time, and at this date, July 11th, they have

made 75 pounds box honey. Thus I brought through 38 out of 42 hives.

Very happy at my success I went to work with a will. Weighed each hive and placed them upon their summer stands. The difference in weight was 276 pounds, making an average of 6¾ to the hive for 120 days; the highest consumption per hive was 11 pounds, the lowest 4½ pounds. The weather for two weeks following was very bad. Two heavy snow storms, and one heavy northeast rain storm, so they did not have a fly until April 3d, 134 days from the 20th of Nov. Now why did they during this long confinement not die, as did those kept on summer stands? My answer is, they were in a low equable temperature, 7° above the freezing point. Their consumption of honey was small, they did not become gorged with their faces as did those on summer stands compelled to feed largely to sustain existence, and again they were in Egyptian darkness, and therefore quiet. Novice has propounded what may be considered an axiom when he says, "unless bees can be kept where water does not freeze, they had better be in the sun as much as possible."

Some modifications of the clamp are suggested by my experience. Put the roof boards 2 in. apart and lay on 12 in. of straw and 6 in. of earth. Put a 4x4 vent in center. I had none at that point. This would avoid condensation of moisture on the inside of clamp.

The cost of such a clamp is slight. $10 for upright, ridge pole, and roof boards covered all, but the building and digging, which was done odd spells by my hired man and self. By renewing the earth in the spring it will last many years.

The small consumption of honey, low equable temperature, fine condition of bees in the spring is ample compensation for the outlay, and is as satisfying as it would be to a good farmer to know that his stock is well housed from the biting blasts of winter.

There is no trouble in propagating bees, the great problem is to winter them successfully. This article looks formidable on paper, but I trust I have been as terse as possible with the proper elucidation of the subject.

CHAS. D. HIBBARD.

Auburn, N. Y.

[For the American Bee Journal.]

Hiving Italians.

I had been expecting for several days that my beautiful Italian queen purchased of A. Benedict would lead out a swarm. I was working some distance from my apiary, when upon looking up I saw they were swarming. Would they light or would they go off? ah, that is the question. I started toward the hive, upon the run you may bet, and commenced looking for the queen. Half the swarm had come out. I stood watching, wondering and trembling, I should think about a minute, when behold! I saw her on the board in front of the hive. I just picked her up and put her in a queen cage, went and got a hive, set the old hive away several feet and set the new one in its place. Took off the cover, laid the queen on the frames, and stood back to see what the result would be.

After circling around, roaring, buzzing, and whirring for about ten minutes, back they began to come, and upon discovering their queen, in they went. Then I set my new hive away and returned the old hive to its place.

Well, that was pretty well done; but how was it with your next swarm?

Well, I'll tell you. I was fixing to go away from home, when the cry was made, "bees swarming!" Around the house I went, and sure enough, my mammoth 18-frame hive was sending out a tremendous big swarm. I looked for my queen, but she escaped my notice, and they lit high on a large apple tree. I got my hive arranged with table cloth in front to shake the bees upon. Took a box, went up the ladder, shook the bees into the box and down I went. (Thought I to myself, I've got you now!) I shook them upon the table cloth in front of the hive, and sir, would you believe it, not a bee could I get to go into that hive. They immediately began to rise. "Go it boots," says I. About half the swarm had arose, when to my joyful satisfaction, I discovered the queen. She was attempting to fly, but I knocked her back with my hand, and picked her up and caged her. I then proceeded the same as I did with my first swarm and hived them successfully, or rather let them hive themselves.

Had you any further trouble with any of your swarms?

Yes sir, I had about the same difficulty with others, but managed to get them hived; and so far as my experience goes, large swarms of Italians are harder to manage in hiving than black swarms. Hereafter, I think I shall divide my bees, and not let them swarm, for I cannot see but they do just as well when properly divided.

IRA J. MANVILLE.

Sparta, Ohio.

[For the American Bee Journal.]

Our Second Swarming.

I told you, I think, that I was quite satisfied with my first experience in "natural" swarming; so well satisfied was I, indeed, as to resolve never to have another.

But I could not make up my mind to at once destroy all queen-cells but one, in the old hive. There were divers reasons for this.

How should I select the right one? Nature—if Darwin be right—would see to it that the fittest of those embryo princesses should be preserved for queenly rule. For her unerring law should I venture to substitute the mere blind chance

which any choice of mine must be?

I had never heard the pipings of a young queen. Should I deprive myself of this pleasure—the pleasure of listening to an entirely new sound?

I had, withall, considerable curiosity to know how the bees would wish to manage affairs for themselves. Should I forego the chance of learning something respecting their plans? of studying their caprices? Of course I should have my own way in the end. (So little had experience taught me.) Of course I should keep the closest watch—but might I not wait a little?

The days went by. I waited and watched, and meanwhile such numbers of baby bees crept forth from their little cribs in this hive, that I began to ask myself if another colony might not be taken from it without the slightest risk. Ere long I had assured myself that this might be done.

Not willingly did I postpone this division until the oldest princess had made her appearance upon the stage. It was a case of necessity. I had no hives—was daily expecting some. That I chanced to be in such a predicament was not my fault—but to explain how it chanced would, I fear, be tedious both to you and to me, dear reader.

On the morning of June 12th, the pipings of the young queen were clearly to be heard, together with replies from a still prisoned sister princess. It was interesting, and I was highly pleased to know that the bees were of the same mind as myself in regard to their separation. But there was need of prompt action, for the morning was fair, and the sun hurried up above the tree-tops without consulting our convenience in the least.

"It will never do," I said to Nellie, "to wait longer for a hive, yet the hives may be here in two hours. Can't we improvise a hive that will hold at least the nucleus of our new colony for that length of time?"

Searching for a box in garret, cellar and barn, we finally found one, which we surrounded and darkened with blankets, we (for safety) sat in one corner of the sitting room. To this receptacle I consigned, and snugly covered in two frames—each comb covered thickly with bees, and each having two or three queen cells.

Returning to the old hive we soon discovered the young princess, too intent upon destroying her rivals to cease piping or to be disturbed in the least by our investigations. Very carefully then did we look over the remaining combs, finding and cutting out five or six queen-cells. Sometimes we accidentally liberated an inmate but in each case she was promptly secured, and tenderly put under a tumbler along with a drop of honey.

"Now," I said complacently, when we had finished this work, "I believe there is no danger whatever, yet to make assurance doubly sure, we will give them a frame of uncapped brood. Then if the queen should fly out, the bees will not follow her,"

About this time Richard returned from the depot and—yes, he had the hives!

But—well, "mistakes will happen sometimes in the best of 'manufactories,'" I suppose. As to the outside the hives were well enough, perhaps, but on opening them I found that of all their frames there was not one that I could use. Fortunately I had on hand some frames of my own, which, with some alteration, could be made to do; and at once we went to work at them.

Just then I discovered that the bees in the box were growing restless, had found a hole, and were escaping in a straight line to the window. Hastily transferring their two frames to an empty hive—noticing as I did so that one queen-cell had yielded up its occupant—I set the hive on its stand and left them to do as they liked, while I hurried back to my work on the frames. This was not finished when Nellie quietly remarked:

"Cyula, your bees are swarming!"

I supposed it was those I had just been handling, but what was my surprise to find that the swarm was issuing from the old hive, where, as I thought, everything had been left just right with a young queen holding undisputed sway.

Concluding not to repeat the experiment which had resulted successfully with our first swarm, but rather to be sensible and do as other people do, we silently watched them until they were all out and, to our great satisfaction, had clustered upon a small bush not ten feet from the hive. The cluster—though quite a respectable one—was not very large, and as there seemed to be a goodly number of bees left in the old hive, I determined to hive the swarm and afterward unite them with the bees I had previously taken away.

We hived them ourselves—Nellie and I—gave them what frames we had prepared, and then returned to our work. This was about finished, when, to our dismay, we beheld our new swarm once more rushing forth. We were somewhat reassured to see them again clustering in the same place as before. Again we hived them, and this time in a hive properly prepared and fitted with frames. During the operation, the queen fell to the ground. I picked her up and put her in the hive. Fatal mistake! it had been better to have put her under the tumbler. We gave these bees a comb of uncapped brood—we shaded them very carefully from the sun—once more we hopefully and trustingly left them to their own device.

"Why did they leave the old hive in the first place?" asked Nellie.

"Probably we overlooked a queen-cell. We must find out as soon as dinner is over," I replied, as we returned to our appropriate "sphere" within doors.

While still at the dinner table, an only too familiar sound was heard. It was—*of course* it was—our bees leaving for the third time! I knew intuitively that this must be the final leave-taking, and although when they started for the woods I grimly followed in the wake of Richard and Nellie as far as the fence, it was without a hope or expectation of any kind.

Richard went on through brush and brier, over logs and around the roots of upturned trees—for their course must needs be over the worst spot in all the woods, a place where two years before a small tornado had whirled through. He followed them till he reached the "dark woods"—(I don't know whether this phrase is peculiar to this locality or not; it means pine and hemlock as distinguished from maple, beech, etc.)

Here, seeing that they rose above the tops of the tallest pines, keeping straight on, he desisted and returned.

And here, I suppose, my already too long story naturally ends. But there is a circumstance connected therewith which I wish to mention because I don't understand it. On looking into the old hive in the afternoon, I found, to my amazement, on the comb of uncapped brood put in in the morning, no less than six queen-cells started. All contained eggs but one, and in this was a plump little larva swimming in royal jelly. We at once concluded (perhaps erroneously) that we had not overlooked a queen-cell—that there was no queen in the hive. Without looking further, we took away their fine beginnings and returned them one of the combs I had hung in the box in the morning, on which was one queen-cell intact. (By the way, despite the elopement of my swarm I determined not to yield the point of having two colonies. I put our nucleus of a swarm with their queen and their remaining comb, minus its queen-cells, into the deserted but furnished hive. I contracted the space properly, and with a little help in the shape of capped brood, and most excellent work on their part, they have become a very fine young colony indeed.) Next morning I observed a dead queen lying at the entrance of the old hive. Looking into the hive in some alarm, I found a very lively young queen.

Now, what puzzles me is this; if those bees had a queen, why, reduced in numbers as they were, did they start a queen-cell? If they had no queen where did the dead queen come from?

Another (to me) curious circumstance connected with the queen of this hive, occurred a week later. Opening the hive to search for eggs, we espied her youthful majesty hurrying about in a very unqueenly way, without a guard, at the same time piping vigorously!

I thought this never occurred except when her royal highness was upon the war path.

CYULA LINSWICK.

[For the American Bee Journal.]

"Progressive Bee-Culture"—A Criticism.

I received, nearly a year ago, the following letter:

HAWESVILLE, April 26, 1872.

DEAR SIR—I mail you with this a copy of a pamphlet I have just issued, entitled "Progressive Bee-Culture." Please read it carefully, and give me your opinion of the theories advanced. Very likely you will disagree with me on some points, but as careful an observer as you seem to be, cannot fail to verify much that is in it. I have read your articles in bee culture, on hives, with much interest, and would be pleased if you would criticise the new idea in the same journal, or in the A. B. JOURNAL. Yours, etc.,

(Signed.) D. L. ADAIR.

The ideas expressed by Mr. Adair in this pamphlet were indeed so different from mine in several respects; they seemed to me so new, so eccentric, that I made up my mind to examine them closely, and compare them with my old observations and some recent experiences, in order to decide whether they are correct as well as new. This is why my answer was delayed. Here is the result of this work:

Bees not endowed with reason; (p. 2.)

Mr. Adair says that bees are not endowed with reason; "they cannot be educated; they act according to the laws which govern matter, which are as unvarying as the laws governing the mathematical sciences; as the lightning descending from the clouds selects the metal rod."

One day I took a queen from a nucleus where she was beginning to lay. That queen had gone out several times before she met a drone. It was in the fall. I put her in a cage, which I placed in the hive in which I intended to introduce her. Two days after I opened the hive, as I wanted to see whether the bees would accept her. I took the queen out. She was scared, flew off, and after having whirled around once or twice above my head she disappeared. Thinking she had gone back to the spot where the nucleus used to be, I went there immediately, and I found her in search of the nucleus I had taken off and united with others. I tried to catch her, and, as I could not succeed, I brought a small empty hive, like the one in which she had been raised; but she had again disappeared. I thought she was lost; but no! Not finding the nucleus in its place she had returned to the hive, in which I had intended to introduce her. I found her on the bottom-board of the hive, surrounded by the bees, and she soon entered the hive.

Is that a mechanical act, like that of lightning descending on the metal rod? And can Mr. Adair deny that there is in it: 1. An act of remembrance, that prompted the queen to return to her former abode? 2. An act of reflection, since having not found the nucleus in its place the queen returned to the hive? 3. As a consequence of the others, an act of reasoning on the part of this queen?

Bees cannot be educated.

Undoubtedly they cannot be taught to read or write; to know good from evil; but we can, in a certain measure, in accordance with their intellectual capacity, increase or diminish their propensities for such or such a thing. For instance, we can modify or augment their anger and robbing propensities, etc.

If, in the spring, you open a hive frequently, employing the greatest care in handling the bees, so as not to excite them, you will notice that this hive becomes more tractable every day; the young bees becoming accustomed to being visited and handled. If, on the contrary, you act roughly with them, they become crosser all the time. This fact is recognized by all bee-keepers.

Several years ago, I had an Italian colony, whose bees became inveterate robbers. I had brought to my apiary about forty colonies, in boxes or gums, that were old and cracked on every side. It took a constant overseeing to prevent and stop robbing. One day, as I had brought home ten colonies and had left for another load, this Italian colony, No. 18, began to rob in a furious manner. I stopped them on my return,

but they annoyed us during the rest of the season. We could hardly open a hive without seeing the robbers of No. 18 arrive in great numbers. I expected winter to destroy this propensity, but they were as bad after as ever before. Happily, it was the only hive in our apiary that had such a characteristic.

One day the son of one of our neighbors came and told us that our bees were robbing one of their hives. "It is probably No. 18 that is robbing," answered I. Indeed, we found No. 18 working as during harvest, whilst the other hives were quiet. My son went to see the robbed hive; it had neither queen, brood nor bees. To change the character of this hive we had to use the greatest care in handling honey, and whenever there was any danger of robbing we had to close No. 18 for a time. After two or three months, the old robbing bees having died, and being replaced by young bees, this hive became as quiet as any other Italian stock, and quieter than black bees generally. When we open some nuclei in the apiary the black bees are always the most annoying in this matter.

The robbing and stinging propensities of bees can therefore be increased or decreased by man. They can be educated in this matter, at least.

Eggs.—According to Mr. Adair, the eggs of bees do not *differ substantially from the seeds of the poppy or of the tomato.* There is, however, a great difference. The seed of the poppy has been fertilized before its development, and could not have developed if this fertilization had not taken place; whilst the egg of the bee can develop itself without any forced action, and is capable of fecundation only after its growth, and when it leaves the cluster of eggs of the ovaries.

"In a normal colony such eggs always produce worker-bees, and although from the same eggs queens may be produced, it is only when there is some derangement in the proper balance of the hives, and consequently is abnormal" (p. 3.)

"Drones are an abnormality."

I cannot conceive how the production of queens and drones is an abnormality, or an irregular act. All beings that belong to the animal kingdom are *perpetuated* by the mating of both sexes. An abnormality would be a race of animals that would *perpetuate* with the help of only one sex. But nothing is more normal than the reproduction of animals of either sex, since without this reproduction the race would perish.

"*General causes of production of drones and queens.*—There are physical qualities that pertain to the queen alone. The most general cause pertains to the whole colony, and is the result, as in the production of queens, of some derangement in the proper balance of the hive....When honey becomes abundant in the fields....the hive is rapidly filled, and consequently the laying room is contracted, and the queen finds herself suddenly deprived of cells in which to deposit the fast accumulating eggs; the result is a physical derangement of the reproductive organs, and consequently drone eggs, which she is compelled (why?) to lay in drone cells if there be any in the hive."

Here is a fact that destroys the whole of Mr. Adair's arduous theories on the production of drones. I never leave any drone comb in my hives, except in those that I destine to the production of drones. These hives I select with the aim of securing pure fertilization for my queens. Now I have never seen my queens lay drone eggs when they have no drone combs, except in case of disease or old age. The physical derangement, therefore, takes place only in Mr. Adair's imagination.

Moreover, every year, as early as March, I introduce drone comb in strong, pure, and prolific colonies, in the centre of the hive. The result is that the queen lays eggs in it almost immediately, as this comb is placed in the warmest part of the hive. This also upsets Mr. Adair's theory; for these queens lay drone eggs without experiencing the physical derangement of which Mr. Adair speaks.

A normal colony of bees; (p. 5.)

"A perfectly balanced normal colony of bees consists only of a queen and workers; and so long as the balance is maintained, there is no necessity for any other members being added."

I do not understand this. We see, daily, colonies composed of queen and workers, and therefore *well balanced* and normal, raising drones and young queens, and swarming.

"*Another fact.*—Another fact of great importance is that so long as the balance is perfect, no drone-comb will be constructed by the bees, nor will any queen cell be commenced."

I do not understand this any better. A well-balanced colony, having queen and workers, will build drone combs as soon as it is strong enough to do so. By what Mr. Adair says, it would appear that as long as a hive has no drones, it is *well-balanced*, and will raise neither drone nor queen cells. Therefore, a hive that never had drones could never have any, and could never swarm.

"*And still another.*—And we venture to assert another fact; that in such a colony the bees can generate wax and construct combs as rapidly as it is needed for the brooding of the queen and the storing of honey." (Same page.)

It is a recognized fact, that bees build comb only according to their needs. So if we hive a swarm in an empty hive, this swarm will build if the harvest is good, and will stop building as soon as the harvest ceases.

Let us suppose that a short time after hiving the swarm, a heavy honey harvest should take place—such a crop as Gallup spoke about, when a hive gathers thirty or forty pounds of honey per day; will the bees of the swarm have enough comb to store all that they can gather? No! Evidently, Mr. Adair is thus mistaken, when he says that a hive will always have enough of comb for the storing of honey. It is principally for want of room that the extractor is so useful to bee-keepers.

Another proof, of the falsity of this theory, lies in the fact that, if you give transferred combs to a colony when honey is abundant in the blossoms, the bees will fill them before they fasten them—either through lack of time, or lack of wax—and the combs thus filled will fall, or become deformed, by the weight of honey.

"*Brood crowded out by honey—The remedy.*—Mr. Adair's remedy is to put, between the brood combs, some empty frames, in which the bees will build and the queen will lay. This process is not *new*, but it is *bad*. Nine times out of ten, the bees being in a great hurry, will build drone combs, as the queen will fill them with eggs, it will be worse than nothing at all. I do not know if this drone-laying will destroy what Mr. Adair calls the *perfect balance* of the colony, but I know, from experiment, that the harvest will thereby be diminished.

Mr. Adair then tries to draw a conclusion from all his theories, and to demonstrate *the uncertainty of former devices*, and to prove that the Adair hive alone produces the certainty of non-swarming; that it produces as much box-honey as the other hives produce extracted honey; that it produces no drones, etc., etc.

His hive is the best, for it has no space between the frames and the sides; and last, but not the least, we are all empirics; he alone has the true--the sole science of bee-keeping. But I will cite, for fear of not being believed.

His theory will show: "That what has been called scientific bee-culture is founded on empiricism, having isolated facts, and many of them false, for its basis: and, what has been called system, is no system at all; the Dzierzon theory, upon which it is founded, being merely the discovery of a series of facts that, while true in the main, have been imperfectly understood, and attributed to wrong causes....In the course of the investigations that have led me to the foregoing conclusions, I have experimented with every plausible hive that has been presented; and, finding none of them unobjectionable, I attempted to construct a hive that would not do violence to the nature and instincts of the bees. The final result was the application of a *new* principle in their construction, which would do away with the inconvenience of the Cook frame-hive, with spaces around them, *that had to be filled up with bees*, to maintain the colony in a proper condition. This I accomplished with my section bee-hive."....(p. 12.)

Friends! bee-keepers, burn your hives, and adopt the Adair hive! As for me, I will be content with the hive that I have used for the past eight years. I think it commodious, simple, easy to manage and convenient for bees, for I have never seen bees filling up the spaces around the frames, to maintain the colony in a proper condition, as Mr. Adair thinks it to be; and I would not trade it for another. It is simply the old style of Quinby hive, enlarged to eleven frames. I fill only eight or nine frames and put in two partition boards, one on each side. The remaining spaces in the sides are occupied by the young bees, before they can act as honey gatherers, who would otherwise cluster on the outside, or remain in the hive, thus being in the way of the working-bees.

As soon as the harvest begins, the bees fill the brood-chamber with honey, and the queen does not find more room to deposit her eggs. If things were left in such a state the colony would swarm, but I place, in the side space, an empty drone comb, and as soon as the bees bring honey into it I put on the honey-boxes or frames. The result is that, for the last six or seven years, I have had very few natural swarms. I do not entirely prevent natural swarming, but I think I prevent it as much as possible.

This hive is a top-opening hive. The frames do not come together in any point. I could visit two of my hives in the time that would be necessary to open one Adair hive. I speak of it knowingly. The Adair hive differs, only in a few points, from the hive that Huber used for his experiments three-fourths of a century ago; besides, Mr. Adair procured me an opportunity to try his hive. In April, 1869, he offered to send me one of his hives. I accepted and received the hive with the right to use it. I transferred a colony into it immediately. The transferring, so easy in frames seven-eighths broad, was difficult on account of the breadth of the sections (one inch and a half.) After a few days I opened the hive again, to remove the ligatures; but, when I brought the sections together again I could not close them without killing many bees—and nothing grieves me so much as to destroy these interesting insects. The section being one and a half inches across, and coming in close contact together all around, I dare Mr. Adair to replace the sections of a strong colony without crushing hundreds of bees. Then, when I returned the box to its place, in the outer case, the bees, returning from the fields, had spread in this outer case; many more were crushed, and some would not go out at all. I had to brush them out. I supposed that after I would become used to handling this hive I would be more skillful, but it was always the same thing. At last one day I perceived that, in the preceding visit, I had crushed the queen between two sections, and I made up my mind to transfer the colony into another hive. This Adair hive is still in my apiary. I use it, not as a hive, but as a tool-box. I should add, however, that since that time I have used the Adair section honey-boxes for surplus honey. They are not handy for the extractor, but they sell very readily whenever the combs are built straight in them.

CH. DADANT.

Hamilton, Ill., April, 1873.

Reports, Experiences, Etc.

John. A. Gunther, of Milwaukee, informs us that the yield at date of July 4, from a swarm bought May 9, has been four swarms and twenty-eight pounds of extract honey.

W. D. Wright, of Knowlesville, Albany Co., N. Y., writes July 8, 1873:

Bees are doing splendidly here, this season. Honey has been very abundant since the first of June.

S. Rowell, Minnesota, writes July, 1873:

Bees doing first-rate on basswood; have taken 400 pounds of honey from eight swarms and their increase up to date, July 20; hives full, ready for the extractor again to-morrow.

John Morgan, of Mill Creek, Utah, writes July 11, 1873:

We have had a bad spring in Utah, for bees. Some have lost all, and are discouraged. The honey season commenced here about two weeks ago. We will have to use the extractor to give the queens more room to keep the colonies populous.

W. G. Smith, Columbia, Mo., writes July 20, 1873:

Bees done very well here up to about the 1st of July, but not much since. I had eleven colonies, seven in box-hives, which I transferred and have increased to sixteen, and taken about 100 pounds of box-honey and 500 pounds of extracted. My bees are all very strong, in fact strong enough to divide and make two of each one.

B. A. Barbour, of Gordonsville, Virginia, writes June 24, 1873:

Our honey season is nearly a failure. Surely we are being tried in a fiery furnace with our pets. Winter's frost and summer's sun play the same destructive part, but my motto is, "Never say die!" The "good time" will surely come again, and the more surely if *we*, meanwhile, preserve a brave heart and a constant spirit and fail not in our part.

L. B. Aldrich, of Warsaw, Minn., writes July 17, 1873:

Bees are doing finely on basswood. I have only one swarm from forty old stocks, having tried to keep them back; one-third of them have two stories of Langstroth hives full of honey, and are storing honey in a third. I am slinging the honey, and in no case do I kill sealed brood, and seldom disturb the larvæ. We raise queens, build new stocks and strengthen old ones with brood that goes through the slinger.

William Stump, Pendleton, Ohio, writes July 20, 1873:

I have taken off most of the box-honey, and this coming week shall divide up and make new swarms. I have queens ready to give them. My plan is to keep colonies strong until after the surplus honey season is over and then divide. The season with us has been good. The ground is now white with clover, but there is not much honey in it. Bee-keepers here, who had slingers have taken out quantities of honey. I prefer to have mine in box hives, which retail at forty cents per pound.

W. Perry, Sen., of Lynnville, Tenn., writes:

I am a new beginner in apiculture in the improved hive. I commenced in the spring of 1872, with about thirty stocks in the old log and box-hives; transferred six of them to the Langstroth hive, and put nineteen swarms in Langstroth hives, and at the close of the swarming season had forty-nine stocks, twenty-five in the Langstroth and twenty-four in the old box or gum-hive, five of which died during the winter. I now have eighty stocks in the Langstroth and thirteen in the old box-hives. They are all doing well in the Langstroth hive, except two, that have not increased their stocks. I fear they have what is called foul-brood.

E. H. Miller, of Tonica, Illinois, writes July 7, 1873:

What few bees I have left appear to be doing very well; swarming and storing honey quite liberal. I placed 134 stocks into winter quarters one year ago last fall; they wintered well, but during March and April last eighty died with dysentery; placed seventy-five into winter quarters last fall, and commence this swarming season with fourteen stocks all told. What are we to do with this disease? Is there no cure or prevention? If so, I would like to see it in the Journal in time to benefit bee-keepers this fall, so that, if possible, we may save such a disastrous loss as we have experienced for the past two winters. The loss in this section has been over 90 per cent. for the last two years.

A subscriber writes from Mitchellville, Tenn., June, 1873:

Bees are doing nothing this season in this section of country. The loss was considerable last winter, say half of all the stocks. Those that survived the winter came out weak in the spring. We had a cold and backward spring, the frost killing all the fruit-blossoms. We have had incessant rains for nearly two months. It has been with difficulty that bees could make a living up to this time, and consequently they have stored no surplus. Our section of country is not so good as some others for natural bee-pasture. Twenty-eight miles south from here is a much better location, being south of the range of mountains that divides the waters of the Cumberland and Green rivers. It is several degrees warmer, spring opens sooner, and there is much better pasture.

W. H. S. Grout, of Poland Centre, Chautauqua county, N. Y., writes:

I lost all my bees one year ago, with dysentery (five in number.) I see a good many writers are puzzled as to the cause of the disease that raged so fearfully amongst bees last winter. I am quite confident that honey-dew was the cause here. Some was gathered in June, but larger quantities in September. I used the extractor to get my surplus, and when winter came my bees had nothing but honey-dew to winter on. I put forty-four in a cellar, where I had wintered them successfully many times before, and left seven on their stands, packed all around with straw and chaff, but all died alike. A neighbor, half a mile from me, wintered twenty swarms in box-hives, on their summer stands, with no protection, without losing any. This I attribute to the fact of their having plenty of good honey, the honey-dew being used mostly in the fall.

THE AMERICAN BEE JOURNAL.

Chicago, August, 1873.

ERRATA.

On Page 29, this number, first line of Italics ought to read "can bees" instead of "can he bees."

On Page 44, next to last line of Wm. Stump's report from Ohio, ought to read "I prefer to have mine in boxes which retail at 40c. per pound."

WANT of room compels us to crowd out a number of excellent communications this month.

THE authorities in charge of the exposition at Vienna refused to permit the exhibition of bees. Their products and the empty hives could be exhibited but not the living bees.

GEORGE EZERRY, of Schoenwald, writes to the *Bienenzeitung* that he has sent money to Lafranfranchy & Co., of Bellenz, for Italian queens, and after repeated efforts has been unable to recover from them either money or queens, and therefore warns all other bee-keepers to be cautious lest they will also be swindled by these dealers. The editor in a note to the above adds that he has received many and like complaints concerning Chevallv.

BEE KEEPERS will find in this issue of the JOURNAL the advertisement of a honey carrier for the safe transportion of comb honey. We have examined this invention, and believe it will prove to be all that is claimed for it, and cheerfully recommend it, as we will all other useful inventions that we honestly think advances the interests of bee-keepers.

Back Volumes and Numbers.

Mr. George S. Wagner, having desired to be relieved of the correspondence and mailing, connected with applications for back volumes for the AMERICAN BEE JOURNAL, we have obtained from him the entire stock, and they are now on hand, completely arranged, in our office. Of Vol. I. we have a large supply, and therefore offer it at the low price of one dollar, sent by mail and post paid. This volume is worth five times its price to any intelligent bee keeper. It contains a full elucidation of scientific bee keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through eight numbers, and are from the pen of the Baron of Berlepsch. We can furnish a few sets of Vols. II., VI. and VII., with the exception of a single number in each, which is missing. Of Vols. III., IV., and V., we can supply a few complete sets, of Vol. VIII. we have but a few complete sets left. Ordinary back volumes will be sent on receipt of $1.50 per volume, and single numbers at twenty cents each. Any numbers that fail to reach subscribers by fault of mail, we are at all times ready to send, on application, free of charge.

Beginners in bee culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain the back volumes now offered. We will send the entire set, which, as above explained, will be deficient about three numbers only, on receipt of ten dollars, delivering them at the express office in this city.

A Queer Paragraph.

The following editorial paragraph appeared in Mr. King's *Bee-Keepers' Journal* for June:

"By Mr. Clark's last JOURNAL, we notice that he has moved to 25 West Lake-st. Since that, however, we have received notice from him to send our exchange copies to his paper at Guelph, Canada. We withdraw our address from Chicago, for the present, and request our readers to send all communications hereafter, to New York."

The above is calculated to mislead in two or three ways, and is withal so artfully worded, that more than one meaning can be extracted from it. We therefore take leave to make some little criticism and comment upon it.

Mr. King informs his readers in the first place as follows:—"By Mr. Clark's last JOURNAL we notice that he has moved to 25 West Lake-st." Now this is contrary to fact. Mr. King noticed nothing of the kind "in Mr. Clark's last Journal." What he did notice there was a very different announcement. It was as follows:—"REMOVAL:—The *office of this Journal* is removed from 146 Madison-st., to 25 West Lake-st., *Chicago*." It was not *he* but the *Journal* whose removal was announced,—a very different affair.

"Since that, however, we received notice from him to send our exchange copies to his paper to Guelph, Canada;" the impression sought to be conveyed being that instead of moving to another street in Chicago, he had changed his mind and gone to Guelph.

"We withdraw our address from Chicago, for the present:" when we got so far we supposed Mr. King meant he had kindly acceded to our request not to send the exchange to Chicago, but to Guelph, though we couldn't see any sense in devoting an editorial notice to so small an item of information. We soon found this was a misapprehension, for lo! and behold! Mr. King proceeds to say, "and request our readers to send all

communications to New York." This is Mr. King's peculiar way of announcing the fact that his *Bee-Keepers' Magazine*, which was ushered into being at Chicago rather more than a year ago amid such a flourish of trumpets, and has grown "small by degrees and beautifully less," has no longer any abiding-place in Chicago. It never had except in name and profession. It never was a *bona fide* Chicago institution. It was a mere "address": only that and nothing more. And now that is withdrawn.

But what has this to do with Mr. Clark's movements? Well, some people have a singular, enigmatical way of setting forth their mental processes on paper. A little explanation is needed to enable the reader to put that and that together. In the present case, a brief narration will best explain things.

Shortly after the death of the late Mr. Wagner, an effort was made to form a joint stock company to carry on the American Bee Journal, and a circular was sent round to a number of leading bee-keepers to that effect. It was part of the plan as stated in the circular, to remove the Journal to Chicago. Mr. King got wind of this and proceeded in hot haste to forestall the movement by producing a beautiful specimen number of the *Bee-Keepers' Magazine*, hailing from Chicago. This naturally threw cold water on the project, and led to hesitancy and delay. We were in Chicago last October, and called at the "office," so called, of the *Bee-Keepers' Magazine*. A glance round revealed the true state of things. It was a mere local agency of the New York journal. We felt that so palpable a farce need not hinder the contemplated removal of the American Bee Journal. Correspondence and negotiations were entered into, the result of which was an arrangement by virtue of which the Journal was removed bodily to Chicago in January. Without seeking or planning on our part, it so came about, by a sort of poetic justice, or providential retribution, that on maturing arrangements for the permanent publication of this journal, we became joint occupants with the Norwood Printing Company of the very premises, 25 West Lake street, at which Mr. King's sham shingle had been displayed for some months previously. Well might the removal of the A. B. J. to 25 West Lake-st. be a bitter pill for Mr. King under the circumstances. But if he had not made queer, awkward wry faces over swallowing it in the June number of his paper, we would have spared his feelings this little narration. The simple truth is, that a mean attempt on his part to head off the friends of the A. B. J. in their efforts to put it on a good, strong, prosperous footing, has proved a mortifying failure, and hence the contemptible and misleading notice in reference to ourselves.

The paragraph in question seems to require a little further personal explanation. We spent the first four months of the present year in Chicago, at downright hard work to establish the A. B. J. in its new position. Other interests and duties then required attention, and everything connected with the journal being in working order, we obtained the services of a competent assistant in the office, a thoroughly qualified bee-keeper, able to manage publication matters as well if not better than ourselves. We pull the editorial oar as at the first, but to do this it is not necessary to be constantly in the office. Having an apiary and other more important interests at Guelph, and it being a cool, delightful place, we suppose we can spend the summer months there if we choose, without asking Mr. King's permission, and if he will be so *very obliging* as to address his exchange with us to that post office, we shall be able to pay our respects to any queer, ugly editorial paragraphs he may get off concerning us, more promptly than we have done in the present instance.

If the object of such paragraphs is to convey the impression that the A. B. J. is an uncertain, ricketty institution liable to be annexed to Canada or to vanish from Chicago as the *Bee-Keepers' Magazine* has done, we beg to assure Mr. King that he is not likely to enjoy the satisfaction of witnessing any such catastrophe. Twelve of the best bee-keepers on this continent are responsibly behind it, and we fancy that the interest manifested in it at Indianapolis last December and the hearty manner in which its friends are rallying round it in its new western home, are pretty sure indications that it will both "go on and prosper."

[For the American Bee Journal.]

Chips from Sweet Home.

About 500 hives, in a range of five miles, were kept here last season, about 15 of them surviving. I had 55 last fall, and all apparently in good condition, but this spring my chips were very dry, as all my bees had quit keeping house. However, I went to G. B. Long's, Hopkinsville, Ky., and brought back 96 hives, so that I am now stocked up again.

D. D. Palmer.

New Boston, Illinois.

[For the American Bee Journal.]

"Gallup" Answers Questions.

In answer to W. E. Freeman, page 187, Vol. VIII., No. 8; first and foremost, bees at any time when they cannot gather honey and are rearing brood abundantly, are inclined to rob; and to prevent this, we at such times feed all such stocks and feed abundantly, and always feed just at night, and keep the entrances to all stocks properly contracted, and we never have any trouble from robbers. At such times, if we handle our bees, we open the hives *always* just at night. With a very little observation, we soon learn to distinguish the aggressor from the agrieved. But if robbers have gotten possession and we wish to know where they come from, we sprinkle them with wheat flour and we can very soon detect the hive that they got into. Robbers go in empty and out loaded from the hive they are robbing, and a very little observation will learn a person to detect robbers at once.

Your fourth question can be answered by this experiment:—Use the Adair form of hive Gallupized, and if it is not the most perfectly ventilated hive for both winter and summer that I ever saw then I am simply mistaken. It certainly is wrong to be breaking the hive loose from the bottom constantly.

In answer to your sixth question, in a properly constructed hive and with proper care in handling, Italian bees can be handled several times per day without interfering with their labor in the least. In fact, the queen will keep on laying right before your eyes with the comb she is on in your hands, and it is a mistaken notion that bees must be smothered with smoke before opening the hive. Now step around back side of this hive, carefully lift off the top (have your smoke on hand in case of need). Raise the honey board carefully and slowly by degrees and place it down by the side of the hive, now loosen the comb you wish to take out, and do it carefully without any jar or sudden motion, raise it out carefully and make your examination. Set it into an empty hive or set it up by the side of the hive, and examine another and replace all as carefully and the bees have been at work out and in with their accustomed regularity and we have used no smoke whatever. But if through any carelessness of handling we have aroused them, we have the smoke on hand and use it. Is any body hurt? I guess not.

The seventh question is a drive at us. We positively have but very little patience with some of the patent humbugs of the day, and again we have but very little patience with parties who, as soon as they have obtained their first stand of bees, and do not yet know a queen from a drone, get up a patent hive and then set themselves up as authority on all matters appertaining to bee culture. We sometimes sting such parties most unmercifully. Yet if you do not believe that we are one of the best natured and most genial fellows you ever saw, come and see us and be satisfied.

It appears that our friend Freeman has not read the back volumes of the JOURNAL, for if he had, he would have seen an article from Gallup on extracting too late in the season. Mr. Hosmer's article that follows his on same page is a sound, sensible article, *positive fact;* every stock of bees in this vicinity that were kept breeding late and did not have their honey extracted too late in the season, wintered without any dysentery and wintered just as well as they ever did in any season.

E. GALLUP.

Orchard, Mitchell Co., Iowa.

[For the American Bee Journal.]

A Strange Freak.

MR. EDITOR:—I opened one of my nuclei some time ago, and found the bees destroying the brood. Thinking this a very strange freak I examined them more closely and found them busy in destroying brood and comb together. Some of the brood when uncapped was a pale pink.—Some had hatched but the young bees were unable to get out of the cells. These I tried to pull out, but they stuck to the cell as if they were glued. As I have never seen a case of foul brood I thought this was one. Can you or any of the readers of the JOURNAL tell why the bees were cutting the brood out and why the young bees were unable to get out of the cells?

The bees swarmed out twice and left this brood some time before, but I returned them when they began to cut it out as related above.

CHAS. E. WIDENER.

Cumberland, Md., July 16, 1873.

[For the American Bee Journal.]

From Topeka, Kansas.

MR. EDITOR.—At our last Bee-Keeper's State Meeting, Mr. Cameron, of Lawrence, suggested that the easiest way to insert queen cells was to pick them off the comb and stick them in at the top, between the frames. Thinking that a good idea—one calculated to save a good deal of trouble, I have tried it with success by cutting out the cell, with very little comb attached, and running a long pin through the comb just above the cell; then, by separating the frames a very little, the cell can be let down to the pin, and is held there until fastened by the bees. The pin resting across the frames, saves the frequent loss of a cell from the bees working it down between the combs to the floor of the hive.

I am having good success in introducing virgin Italian queens into black colonies, by taking a common queen cage and fastening a sealed queen-cell in at the top, with three or four cells of honey in a bit of comb at the bottom, putting a cork in each end to keep the bees from eating out the queen; then hang the cage between two frames, letting the ends of a long pin rest on the top of the frames. As soon as hatched—on the 13th or 14th day—open and kill the black queen in twenty-four to thirty-six hours; tie a bit of soft newspaper over

the lower end of the cage (first removing the cork and comb), and return the cage. Open the hive not less than twelve hours afterwards, and you will find your virgin queen in and all right.

Kansas is certainly the poorest place for bees that one can well find, except at the end of the season. Until the first of August there is so little honey that no comb is made, and sometimes breeding entirely ceases. Early, high winds keep the stocks weak, in connection with little honey, but if the stocks can be made strong by the first of August they will fill all the combs they can make, or that can be found for them to fill. G. F. Merriam.

Topeka, Kan.

P. S.—Mr. Hosmer's method of wintering weak stocks will not do here, unless one can keep them until the 10th of May, and let them out only on very fine days. The sudden changes in the weather, and the great propensity to rob, uses the weak stocks up very fast. We have not had any of the bee disease here yet, but last winter's cold killed large quantities. The Italians rob less with me than any other, and keep the moths off the combs far better than blacks, besides being hardier, better breeders and better honey gatherers. M.

For the American Bee Journal.]

Gallup Hits Somebody.

Mr. Editor:--Do not be alarmed about my quoting Mr. Adair, or from his works, nor even using some of his language, as I obtained full permission from him before I commenced. I shall endeavor to give him full credit as far as possible. Mr. A. has ventured an assertion in Progressive Bee Culture to this effect: "That a perfectly balanced normal colony can generate wax construct comb as rapidly as is needed for the brooding of the queen and the storing of honey." Now we think that we fully understand him. We have experimented for years in this manner, by adding more workers than one queen could raise, and we thought we were doing a *big thing.* But we now think that in a hive of the proper form, one good queen can and will raise all the bees that are necessary to carry on the labors of the hive; if we double the quantity of honey gatherers, the colony is thrown out of balance. If we double the quantity of wax workers, it is the same, and if we double the quantity of nursing bees we are no better off, only for the time being. In wh t form of hive can we accomplish this desirable result with the least possible manipulation or labor?

During a steady yield of honey, a queen will occupy in my nuclei hive just about such a proportion of three combs of brood, and the balance is occupied with pollen and honey. Now place her in my standard hive of twelve combs and with the same proportion of bees she will occupy the twelve combs just as fully as she did the three, and in the same proportion. Now we will place her in the Adair form of hive containing twenty-four combs, and we have the same results. This form of hive would be just three feet long. Now make three hives *a la mode* Gallup, just twelve inches square, each contains eight combs, and we set the three one on top of the other, and we have a hive of the same capacity as of the other, only it is three feet high instead of three feet long. This hive certainly ought to suit Novice, as it would be one story better than his, and if it is a nice thing to lift off one story in order to get at the bottom hive, it certainly ought to be a great deal nicer to lift off two, and this hive would be covered by the Langstroth patent, and not by the King patent, so that Novice's bees could find no fault on that score.

Now we ask any candid bee-keeper who is using the Gallup frame to try the experiment, and satisfy yourself, don't take Gallup's or Adair's assersions as they are bound up with their pet New Idea and have gone to theorizing, etc. For ourselves we have tried tall hives to our satisfaction. Make the experiment with both good queens and everything but the form of hive as as near as possible, and when half the season is over, exchange combs, brood, bees and queens from one hive to the other, and at the time of the change extract the honey out of the way of the queens and mark the results. Or what would be better, use both stocks in their respective hives one season and exchange the following season. The combs are to be the same in every respect, all brood comb and all will be in the same sized frames.

Now we actually think, that a blind man with his eyes shut could see as plain as day who was the father of Noah's sons after the above experiment; but the blindest man we ever saw was a man who could see but would not.

E. Gallup.

Report.

H. H. Flick, Lavansville, Pa., writes July 8, 1873:

Bees are doing finely. We have an old-fashioned season here; prospects are good yet for more; plenty of rain keeps up the clover to "fever heat." I can turn off over 125 pounds of white clover honey per colony.

Chicago Honey Market.

G. BAUMEISTER & CO.

Wholesale and Retail Dealers in

HONEY & BEESWAX,

231 West Randolph Street.

Will pay for choice white box honey 25@30c. Fair to good 20@25c.

Extracted, choice white 12@16c., fair to good 10@12c. Strained 8@10c.

Beeswax 30@33c.

AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY W. F. CLARKE, CHICAGO, ILL.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

VOL. IX. SEPTEMBER, 1873. No. 3.

For the American Bee Journal.]

Novice.

DEAR BEE JOURNAL: We are really afraid that for once we shall be unable to get the one barrel from each ten colonies, but yet we have faith that it could have been done had our queens *all* been as prolific as some of them were. Accordingly we commenced in July to destroy all queens not considered up to the standard, giving the stock queens cells from choice parentage; since then we have been rearing extra queens in the upper stories, interposing a heavy sheet of manilla paper between the two, besides the quilt to prevent accidents should the bees gnaw through the latter. With the L. hives we make the upper entrance on the roof of the portico. With the "Simplicity"—by the way, kind readers, please allow us to stop long enough to thank friend T. S. on page 36 for his setting the matter so that none may get erroneous ideas from the term "dollar hive." He is in the main right, but the hive without frames was often ordered and sold for $1.00, as those having Langstroth hives could simply hang a set of frames, combs, bees, and all in them, and see whether they liked them without farther expense. If they approved them they had a complete pattern to work by; for $1.00 paid for all there was about the "Simplicity Hive," different from the Langstroth," and the same may be said of all other hives used two story. By the way Mr. Editor, we were somewhat annoyed to find that our advertisement in two numbers, read "Hives ready to *mail*" for 90c. It seems every one did not know this should have read *nail*. If "Uncle Sam" will carry queens by mail, we won't ask him to carry hives. We, too, wrote to the P. N. G. with all the eloquence we could master to try and set him right about bees by mail, but he only replied by copy of the decision, saying he had seen no reason for revoking his decision. We will most heartily join with our old friend Alley in any thing that may facilitate giving the people Italian queens at less expense. Several P. M's say they will send them at any rate until further orders, and we really hope the proper authorities will see that justice be done this branch of rural industry. There! Now, we'll try and tell, that—to raise queens in the second story of S. hives, we put an extra door step on the upper half, and it is our opinion that during dull times for honey, especially in the fall and with stocks that have not swarmed, a fine queen could be raised every two weeks as well as not. If you think no one will "pick at it," Mr. Editor, you might state that we sell such queens unwarranted for one dollar each, and orders are on hand now for more than we can probably raise. Is not there a chance here for many others to make their heavy colonies yield quite an income after honey has failed, and at the same time "do good" by disseminating Italians cheaply?

We are pained to see Dadant overhaul Adair so roughly. While we agree with Dadant in the main, in regard to "Progressive Bee Culture," we fear his article would not have been written had not Adair attacked imported queens. It seems the two have been friends, can they not remain so even while criticising. Adair *we think* has committed some grave blunders; Mrs. Tupper certainly did one or more, and M. Quinby and others have done their share. If one intimates that the extractor kills brood; and another that frames in part closed or all around can be handled with the facility of open, suspended ones; or that any particular hive will give box honey with the certainty, and in quantities equal to extracted; public good, or the good of the masses demand that the matter be corrected, not by assertions, but by facts, and these should be given promptly and fearlessly and *never* from spite or revenge.

We once read a letter accusing us of making an attack on a man in "cold blood," *i. e.* he had never wronged *us*. Had he done so it would have been revenge, hence excusable. It was his hive we objected to, not the man. Mr. Gallup speaks of a hive three feet high; we should not like this at all, nor should we like a frame 11 inches square, or about that, as Mr. Gallup's is.

We think with Adair that the width of frames should always exceed the depth. However, suppose we had an order to make a hive of Gallup frames and we did have such an order from Prof. Cook, of Michigan, Agricultural College. Three stories of eight frames each would be very bad; and the whole twenty-four spread horizontally in a hive three feet long would take much room, much lumber, and must *all* be carried into winter quarters, or none, supposing it as good economy of brooding space for bees. We decided on two Simplicity hives with 12 frames each as best, all things considered. Do not most of our readers agree with us. Were it not for wishing to take only one-half the combs into winter quarters, we might have placed two stories of such tall frames side by side *a la* Gallup's "twin hive," or has he abandoned that form? Mr. G.'s locality might make a difference, yet he says they get almost no box honey. (See page 24.)

That don't agree with Adair.

The new idea hive (four feet long is new certainly), works very well, with suspended frames, of course; we are watching some belonging to a friend and they prove very convenient for the extractor. If bees could be wintered in them safely out of doors, and without too great additional consumption of food, we think they might be considerably used.

NOVICE

P. S.—We have this season, for the first time, a queen that has so far, *invariably* produced duplicates of herself, finely marked yellow queens. She was a present from R. M. Argo, Lowell, Ky.

[For the American Bee Journal.]

Our Maiden Swarm.

"Is there any danger of their swarming this season?" asked Nellie, one day, as we were wondering over the rapidity with which comb-building and brood-rearing went on in our pet colony, No. 3. (The colony of May 27th—the colony which *might have been* a "natural" swarm.)

"I think not," I replied. "Langstroth says that 'a first swarm will sometimes swarm again, about a month after it is hived; but in Northern climates this is a rare occurrence.' Now, 'rare occurrences' don't happen with beginners like us; they *never* do."

"Still," suggested Nellie, "we may as well keep a little watch of their proceedings."

"My dear," I responded severely, (I always say "my dear" to Nellie, when I wish to imply reproof), "do you suppose that I shall allow *another* swarm to issue this season?"

Nellie did not reply, and I suspected her of biting her lips to repress a smile. After a moment she said inquiringly:

"Such a swarm would be called a 'maiden swarm—*why?*"

"Perhaps it is apt to be rather *slender*," I guessed.

"Which means that you know no more about it than I do."

"Yes."

About July 4th the daily supply of honey from the fields did not equal the daily demand; and from this time until July 13th we were obliged to contribute to the support of four of our five colonies. Then the basswood harvest began. Four days later we examined No. 3, and finding it very strong in numbers, with but little to do below, (there was so much brood as to leave little room for honey), we gave them above a box containing two rows of nice little frames. The pleasure it gave us to see the bees, with little delay, go up and take possession, was *intense*. No other word expresses it. What a comfort and a joy was this colony! Always at work—never sitting out and filling us with apprehensions of possible leave-taking, as did the bees at another hive.

Never were they busier than on the morning of July 22d. I peeped into the top, and raised the covering from the box of little frames. Bees at all the openings, quietly peered up at me—all, seemingly, contented and happy; and I walked into the house, scattering smiles in all directions so lavishly, that once or twice I caught Nellie looking at me somewhat apprehensively—perhaps fearing that, if spent at that rate, the supply would soon become exhausted.

I think I smiled no more (that day) after one p. m.; about which time Richard called to me.

"Cyula, your bees are swarming!" and hurrying to the door, I saw, to my grief and vexation, that it was our pet colony No. 3.

I don't know much about the average size of 'natural' swarms, yet I am confident that this might have been called enormous, anywhere. At any rate, it almost demolished the top of one of our little apple trees.

"And you call *that* a 'maiden' swarm!" said Nellie, somewhat sarcastically, as we stood looking at the great brown mass. I was obliged to confess that it *did* have rather more of a grandmotherly appearance.

The hiving was not difficult; but it was a somewhat tedious operation. The heat was oppressive; but Nellie kindly held an umbrella over the cluster to shield it from the sun, until the greater part had been coaxed or driven into the hive.

We gave them all the space below, (ten twelve-inch-square frames); for evidently they needed it. At the old stand we found queen-cells but just begun, and a comparatively small stock of bees. But there was so much capped brood that we concluded to leave matters as they were. Only we lamented bitterly over our blighted hope of surplus honey in little frames. Sorrowfully we took them off;—some filled and ready to cap; others half filled; others with only a square inch or two of snowy comb. How-

ever, we took from the lower story three days later (despite the brood, and without injuring it), seventeen pounds of very nice basswood honey.

For four days our 'maiden' swarm worked at comb-building as never had *our* bees before. As the beautiful work went on, we grew reconciled to our loss of honey, and remembered that, after all, bees and worker-comb, instead of honey, had been our aim for *this* season; why then should we complain that our faithful little laborers had thus effectually carried out our own plans?

On the afternoon of the fourth day our equanimity was aggravatingly upset. Without warning, our new colony once more rushed forth in a body, and consternation and dismay filled our hearts, (for we thought, *surely* they will go off to the woods, *now*,) until they began to congregate upon a little tree, a rod or so from the hive.

"They are very good and considerate in their choice of resting places," I remarked.

"Perhaps you don't notice," responded Nellie, "that it is my little apricot tree they have chosen. Without doubt it will be entirely ruined!"

"Never mind," I said cheerily. (It is *well* to be cheerful in contemplating the sorrows of a friend.) It could not long survive our cold winters—better that it thus worthily perish now."

Looking into the deserted hive, we found eggs and honey with as much comb as our one artificial swarm of a year ago would have taken three weeks to build.

"It is evident that they left because they were wise enough to foresee that, with this space fully furnished with comb, honey and brood, there would not be enough room left for themselves." This was the conclusion I finally reached.

"Well,—what are you going to do about it?" asked Nellie.

"Give them room above; besides giving some of the bees to the other hives. "Yet, after all, I shall not feel at ease respecting them. If"—I said, with sudden emphasis—"we only *could* find the queen!"

"Something like 'looking for a needle in a needle in a hay-stack,' I fancy," said Nellie; "but what would happen in that case?"

"I believe—yes, I *do* believe that I would cut off her wings!"

"*Would* you?" said Nellie, a little incredulously.

We had put our hive, with entrance enlarged, in close proximity to the swarm, and had already induced quite a number to enter, when, suddenly, I saw, and pointed out to Nellie, the queen. Instantly, Nellie's fingers went down among the bees in the place indicated, and after a few moments of breathless suspense, she exclaimed, starting toward the house,

"Come quick, Cyula! Find your scissors!"

I followed, with (I confess it) a somewhat reluctant step. In all *im*possible places I began to search for those scissors, saying to myself meantime, oh, I cannot do it—I *cannot!*"

"Don't you think, Nellie," I queried, "that our scissors are rather clumsy for such work!"

"Those you have in your hand—the *shears*—yes! But the little ones,—well, they're not as good as those we see advertised for this special use, doubtless—still, I guess they'll do. Be quick, Cyula! She is growing impatient—she is biting my hand."

"Put her under a tumbler," I said, glad of a moment's respite, and officiously aiding in this operation.

Nellie now began a systematic search for the scissors, and I, pretending to aid in this, wandered off into the kitchen, repeating to myself

"It is just impossible—I *can't* do it!"

A minute later, Nellie found me standing in the door-way, with my eyes vacantly fixed upon the bowed-down apricot tree.

"I have found the scissors," she said, with an inquiring, and somewhat suspicious glance. "Are you ready!"

"Ready for execution?—yes!" I replied, as I meekly turned to follow her.

"No," she laughingly answered, *your* wings havn't *begun* sprouting yet, Cyula. I'll clip them with pleasure, whenever they do, be assured. But *are* you ready, either to hold Rebecca" (all our queens have names) "while I clip her wings, or shall I hold her while you do the deed? Surely you don't mean to say that you are willing to risk her going off with the swarm to-morrow?"

"No,—of course not," I replied, summoning all my resolution. "Did not *I* propose clipping her wings? But, if you don't care, I think I'll let you use the scissors."

"Very well," said Nellie.

I fear that I am exposing myself to the lasting scorn of all *brother* bee-keepers; but I must confess that when I essayed to hold her majesty, "gently but firmly," I found my hands trembling to such a degree, as to make the situation for her a somewhat dangerous one.

"You'll have to take the scissors after all, Cyula," said Nellie. "Now, then,"—she said, as for a moment she held her still, with the poor little folded wings within reach of the scissor points.

"But I wish to cut but *one* wing," I remonstrated.

"I can't easily separate them. It will do just as well—will it not?"

The next instant (I hardly know how I did it) the shining points had met, and the tiny, gauzy fragments had dropped to the floor.

As I looked at her now I was overwhelmed with contrition and remorse. I felt as David may have felt when he had cut off the skirts of Saul.

"I don't think it hurt her much," remarked Nellie, somewhat commiseratingly.

"Perhaps not," physically speaking; "but only look at her! Think of the *indignity*—of the injury to her feelings!"

"Well, she is very quiet about it," said Nellie. "She has stopped buzzing entirely."

"'Stopped buzzing.' What are you thinking of? I should think she well might without wings," I indignantly answered.

Whereupon Nellie laughed, partly at herself and partly at me, and then, with composure somewhat restored, we went back to our work. A partially detached branch, to which a considerable number of bees were clinging, we cut off; and proceeded to shake off the bees in detachments at the other hives where they were cordially enough received. But the greater part, with their poor, maimed queen, were put back in their own hive and returned to their stand.

Next day, about ten a. m., our wilful 'maiden' swarm again came forth, but this time we were not greatly surprised, and of course, under the circumstances, were not greatly alarmed. Nellie inquired if I was very sorry, *now*, that Rebecca had no wings.

Her we found at the verge of the alighting board, and secured, until the bees, who scattered themselves far and near throughout the clearing, began to return, when we allowed her to go in among them.

This ends—we are confident that it *ends* the story of our swarming experiences for *this* season. CYULA LINSWIK.

[For the American Bee Journal]

Letter From Kansas.

EDITOR JOURNAL.—We have to report a poor season here up to this writing: even worse than last year, which was the worst we have had for a number of years. There is time yet, however, for bees to lay up a good supply for the winter, and a reasonable surplus to all stocks that are strong in numbers. Some seasons we have known large quantities of honey gathered in October. We never expect any surplus here before August and September. The summer months, as a general thing, are too hot and dry for the bees to gather more than a living.

Are ventilators a humbug? They are unless you know how to make them so the bees will not gum the wire cloth over and close them. We find that they are very convenient during the hot summer months when the bees are compelled to leave the hive unless they are ventilated and cluster on the outside. Now we would like to tell Novice how to make a ventilator that the bees will not close. We make them by putting an inch hole in the rear of the hive near the top, opposite the entrance, and put the wire cloth on the outside of the hive, just let in enough so that a button will cover the hole without rubbing on the wire. We have had ventilators of this kind in use several years and none of them has ever been closed in the least, with gum by the bees. But when we started out in the ventilator business we put the cloth on the inside and in every case it was closed up as soon as the bees reached it.

We have got one idea from Novice that was valuable to us, and we are willing that he should know how to make a ventilator that is not a humbug.

N. CAMERON.

Lawrence, Kan., Aug. 11, 1873.

[For the American Bee Journal.]

Bees by Mail.

MR. EDITOR:—"Bees by mail" is a question of importance to queen raisers. How are they to convince the Postmaster General that his decision is unjust, and obtain a favorable ruling from him? We submit the following:

That you, Mr. Editor, should publish in your Journal the form of a petition to be sent to the Postmaster General. That the other bee journals be asked to copy it, and that queen raisers be requested to send or bring these petitions to the next meeting of the N. A. B. Society with all the signers they may be able to obtain, and especially the signatures of their postmasters, and these petitions, together with one from the N. A. B. Society, and a sample mailing box be sent to the P. M. G. Something of this kind may secure the mails to bee-keepers. A little prompt action on the part of those interested will accomplish this before another season comes. H. C. COWAN.

Oxford, Ohio, Aug. 12, 1873.

BEE-STINGS.—A corrrespondent of the *Gardener's Magazine* writes as follows: "On the 15th of April last, a young man, employed near bees, had the misfortune of being stung. No remedy being near at hand, I remembered Mr. Gordon's note on the cure of bee-stings, at page 461 of the *Gardener's Magazine* for 1872. I recommended him to apply the common soil to the wound, as described by Mr. Gordon, and it immediately relieved the pain and prevented the swelling. Such a receipt is of more value than gold, to all who have anything to do with bees. I formerly used common blue for bee-stings, but common soil is preferable."

IN a word, if you desire to have your bees thrive, and prosper, keep them well from wind and wet, heat and cold, destroy their enemies; and let them enjoy a sufficiency of food gotten by their industry; and if their be a want in some, timely supply them, and doubt not of, by God's blessing on your endeavors, the increase and prosperity of your bees.

PURCHAS.

[Translated from the Bienenzeitung.]

Extracts From the Proceedings of the German Bee-Keepers' Convention, Held at Latzburg, Sept. 10, 11 and 12, 1872.

[CONTINUED FROM LAST NUMBER.]

The Production of Wax is Therefore a Secret of the Bee,

A second question is, whether the wax is made out of the honey, out of the saccharine matter of the nectar, or out of that mixed with pollen.

The observations which Huber, Grundlach, Dumas, and Milne-Edward have made concerning the production of wax have demonstrated that only by honey feeding will the bees produce wax. The bee-keepers have also demonstrated that the production of wax only continues for a certain time. Baron von Berelepsch says that the bees will for from sixteen to eighteen days continue building and rearing brood, when fed upon honey alone, although owing to the long confinement many dead bees with swollen abdomens lie on the floor beneath. The death rate increases from day to day, the most of the bees becoming weak and enervated.

Prof. Voit, in Munich, with the help of these observations and his theory concerning the production of fat as developed in his essay, "Concerning the Production of Fat in Animal Bodies," undertakes to prove that bees do not produce the wax out of hydrated carbon.

Voit, in his essay, proceeds thus: "Beautifully does Berlepsch show the influence of albumenous holding pollen upon the production of wax. In hive No. 1 he places combs filled with pollen, weighing 1,315 gramms, and six bars with 66 gramms of wax foundations. In stock No. 2, he placed empty combs and likewise six frames with 66 gramms wax foundations. The bees of each stock weighed 1,025 gramms, and had 2,338 gramms honey. After ten days the combs were taken out and examined to see how much new wax appeared to have been made. The combs of stock No. 2 weighed, including the honey, 1,118 gramms more than the wax foundations, and without the honey 51 gramms more, hence it appears that the increase of wax was 51 gramms, and that too with honey for their only food; there has then been absorbed in the body of the bees 1,272 gramms, and 1,066 gramms placed in the combs. The combs in hive No. 1 weigh, together with the inclosed honey, 1,049 gramms more than the wax foundations, and without honey, 84 gramms, hence the wax amounts to 84 gramms; in the combs are 965 gramms honey deposited, and in the body of the bees 1,257 gramms honey, and 117 gramms of honey used. This 117 gramms pollen supplied the 33 gramms of wax, over that obtained from feeding pure honey. This conclusion need not awaken any wonder unless judged by preconceived ideas. When we believe that wax is the product of the body of the bee it is very clear that any cause injuring the health of the bee will affect the supply of the wax; hence the exclusion of nitrogenous food. With honey alone the bee sickens; with nitrogenous food, however, they remain healthy and maintain the working energy of the bee, but with honey alone the 1,032 gramms of bees produced 51 gramms wax; when one understands that 45 parts of wax can be produced from 100 parts of dried albumen, he will easily comprehend that 1,052 gramms bees had to produce 455 gramms albumen in its natural state containing 75 per cent. water), and to furnish this material for the wax building, that had to produce 40 per cent. of fluid albumen from their bodies, thus diminishing their bodily weight that much. This is rather improbable.

According to Voit in the above experiment, the 117 gramms pollen, representing albumen, supplies the 33 gramms wax. But from my observations, the pollen gathered by the bees and placed in the cells contains but two, at the highest, but three per cent. nitrogen together with from 12.8 to 19.2 per cent. of albumen. Voit divides 100 gramms albumen in 23.5 urea, 51.4 fat, or 46.8 unc acid, and 46.7 fat; consequently according to my analysis the known quantity of albumen in 100 gramms of pollen would be only from 6 5 to 9.8 gramms fat, or from 5.7 to 8.9 gramms fat; just in such proportion as would allow 100 gramms albumen to contain 51.4 or 46.7 gramms of fat; in 100 gramms pollen there may be 7.6 to 11.4 gramms fat or from 6.9 to 19.4 gramms fat, and less wax, since the quantity of carbon in wax is usually higher than that in the fat; the quantity of carbon in 94 gramms of wax equals that in 100 parts of fat, also 6.9 fat, 6.5 wax, and 10.4 fat, 9.7 wax.

There is no possibility hence, that the 33 gramms of wax was supplied by the albumen of the pollen, since 117 gramms pollen are not 117 gramms albumen.

This interesting investigation does not then prove that the bees produce wax from the albumen of the pollen; one sees that the quantity of albumen in pollen will fall far short of what is needed to supply a large quantity of wax. The bees must eat pollen out of all proportions to produce wax rrom the albumen alone. The objection that the pollen used by Berlepsch has not been analyzed so as to obtain the quantity of nitrogenous matter contained in it, can have no force against my conclusions, for even analysis of pollen gathered by the bees show very slight variations from each other.

We can hence say,

2. *That wax is produced chiefly by bees from the saccharine matter they gather, and is continued only by the use of nitrogenous food.*

II.

How is it now with the honey.

Is the honey placed in the cells by the bees and that sucked from the flowers identical? Or is the latter chemically changed in the body of the bee?

This question cannot but be of great interest to the practical bee-keeper. At present I am not in a position to answer it, but I will explain to you the process by which I hope to solve the question.

There is, as far as my knowledge goes, but one chemically notice of this question: that made by Kemper and Kraut, and they do not solve the question. Bee-keepers, it is true, have tried experiments which appear to show that the bees only gather from the flowers and carry it to the cells without any change. The acceptance of the fact that the honey gathered by the bees undergoes a chemical change in its passage through the organs of the bee, is readily given, when the facts discovered by my researches into the nature of pollen show that the mingling of the pure saliva of the bee with the albumen of the pollen is changed into peptone. It is readily to be seen that, as illustrated by Fischer, the more than ordinarily developed saliva glands perform the largest part of the digestion of the bee, and especially the changing of albumen into peptone, which is a digested product of albumen not found in nature. When the pollen brought in by the bees is mingled with saliva, and such a process or digestion takes place, why should it be supposed that the nectar, gathered, swallowed and again ejected should escape any change.

This, it is well known, is a much disputed question. Each bee-keeper has his own idea about it, and yet scientific investigation, especially chemical experiments, can solve it. I hope that these questions will be solved theoretically and practically by the able bee-keeper, Herr Vogel, of Lehmanshofel, whom I cannot sufficiently thank for his wonderful perseverance, untiring counsel, and the noble experiments instituted by him. Before I commence explaining these experiments I would say that the pure honey I used in the experiments contained no nitrogen. The different species of honey, obtained from Herr Vogel for experimental purposes, proved itself free from nitrogen, should there be nitrogen in any species of the honey, so originates by the mingling of this honey, an impurity. Pure honey comes solely from sugar, and a very small quantity of aromatic matter, which give to the several kinds of honey their specific character.

According to the plan of Mehring, malt food is prepared, and in this the quantity of nitrogen is fixed. This malt food I sent to Herr Vogel to feed the bees with. The honey obtained from this food must be tested for nitrogen. Should this honey, which I call "malt honey," be free from nitrogen, or contain a very small quantity, then is this malt food, which is substituted for the nectar of the flowers, changed by the organs of the bee, and has undergone a chemical change, since the bees cannot separate in the malt food the nitrogenous substance from the hydrated carbon in a mechanical way—as one separates the chaff from the wheat. The organs of the bees have, therefore, worked upon the malt food, having wholly or partly digested the albuminous substance and ejected the hydro-carbon as honey. As, in my opinion, the bees partially digest the malt-food, in like manner will they treat the nectar, which usually contains some pollen. In the one case we obtain malt honey, in the other linden and other species of honey, according as the nectar has been gathered from the linden, apples, etc. The malt honey differs in no respect from other honey, except in the aroma, i. e., as the linden blossom, and apple blossom, etc.

Malt honey is not malt food lacking nitrogenous matter, but it is honey, that is: the existing hydro-carbon (malt sugar and malt dextrine) are changed by the bees into honey sugar. Man cannot think to accomplish this result without the aid of bees.

It is as little possible to make honey from the gathered nectar, to make the separation of the species of sugar from the albuminous matter, which is united with the nectar; this change must take place in the body of the bee. We can, through the intervention of the bee, as before mentioned, prepare an artificial honey from malt food, which is only distinguised from natural honey by its maltish aroma.

Besides, this food of Mehring is by all held useful as a means of nourishing the bee, as well as for the preparation of honey, and hence will be much used in districts poor in honey-yielding blossom.

The results of my researches concerning artificial honey will shortly be published in the *Bienenzeitung.*

DR. W. VON SCHNEIDER.

St. Petersburg, Aug. 6, 1872.

After having read the above communication Prof. Siebolt read to the Association a lengthy and able essay, explaining the results of his investigations into the glandular system of the bee, of which we are here able to give but a brief abstract:

"From the foregoing observations I dare not conceal the fact, that a doubt has been started in my mind, whether the difference between nursing and honey-gathering bees consists only in their age, as has heretofore been supposed, but also in this, that the young bees are better fitted than the old ones for preparing the food for the larvæ, owing to their stronger and more powerfully developed glandular system, since it does not admit of a doubt that these glands play a very important part in the preparation of the food for the brood.

What range these investigations, relative to the glandular system of the bees first brought to notice by Fischer, and through ignorance neglected by the bee-keeper, will have, is readily seen not only in the preparation of the food for the brood, but also in the honey gathered and also in the working of the wax, which the bees use in building their combs. Does one consider that the brood bees take the wax scales, sweated as it were from their body, and, by chewing, reduce it to a pliable adhesive condition, he will readily understand that through this chewing and intermingling of the secretions of the mouth, the wax will undergo some change; I am firmly of the belief that a chemical analysis will show a difference in the elements composing the wax scales and those of the wax with which the combs are built; just such a difference as has been found to exist between malt food and malt sugar.

Huber. In regard to artificial honey, heretofore, I have not been able to comprehend how the sweet juice could, in the honey-bag of the bee, be changed into honey. Prof, Siebolt, however, has made it clear to me, and I can now believe that the change takes place partly in the honey-bag of the bee, and partly in its mouth.

Heretofore, I was of the opinion that such a change was impossible, that honey was in Nature alone—the distillation of the flower and the plant.

Dzierzon. Herr Huber thinks that the bees suck in the honey from the flowers very quickly. This is true, but the work of depositing it in the combs is not so easily accomplished. It is to be observed that the bees enter either with the whole body, or with the head into the cell, and that it takes them some time before they are able to unload their burden. It is well known that much of the honey, when it is first brought home is very watery, and generally is placed in the lower cells and afterwards removed to the upper cells, and this I belive is done by other bees; namely, the young bees, who use the pollen and are more fitted for purifying the honey. Under some circumstances, however, the honey may remain unpurified, namely, when there happens to be a rich honey dew, or when the pine or fir trees sweat honey in abundance, requiring all the force of the hive to gather it in, and little pollen is brought, the bees have not the time to attend to the purifying of the honey. The mass of the honey, not having all its nitrogen removed, may ferment and thus be followed by injurious consequences to the bees, producing dysentery, etc.

These glands play a very weighty part in the preparation of the food for the brood. Viewed in this relation, no mention of them has been heretofore made.

Dr. Hummon, of Ingolstadt, replied to the doubt thrown out by Herr Huber, as to the rapidity with which the change was effected. He instanced the rapid change which takes place in the food eaten by the human being. That in almost a second of time the starch is changed by the saliva into grape-sugar, and this latter, almost before reaching the stomach, is changed into another substance, so that the time occupied in gathering the honey, carrying it to the hive, and emptying it into the cells is fully sufficient for the saliva of the bee to effect most important changes.

Dr. Heller says, some four years ago, I wanted to examine what change sugar fed to bees, underwent. I made the experiment in the following way: I colored some pure, dissolved sugar, part with indigo and part with carmine. On one day I gave the one kind, on the next day the other to the bees for food. The following morning I found beautiful blue-colored sugar-syrup in the cells, and, the morning after, red-colored sugar-syrup in other cells. The color was unchanged; hence, I believe the food had been unchanged. This, however, was only a superficial judgment. Although this color was unchanged, I soon became aware that the bees were not satisfied with it. They took it away and placed it in other cells. In a few days I was unable to find either blue or red honey—only a yellow-colored, which in nowise differed from the ordinary honey. My experiment, so far as it was intended to mark the change of the sugar-food, miscarried. But my knowledge was enriched, and with this knowledge I hope to obtain a complete understanding of that which I have heard to-day stated from the mouth of this master of science.

Dr. Pollman thought it would be better should the chemist use for experimental purposes old, capped honey, rather than the new and fresh honey.

How can the weakening of stock, by too frequent swarming, be prevented?

During the discussion of this question, Herr Schelegiann made the following remarks: I have invented a wire lattice, by means of which the queen can be confined at the will of the bee-keeper to one or more combs, and prevented from laying too many eggs, so that the strength of the stock will always remain about even. In doing this, the bee-keeper must take into account both the fertility of the queen and the country in which his apiary is located. In a situation where many bees are lost, when flying out, the queen must have more comb at her disposal than where there is no danger of the bees being lost. In speaking now, I refer to my own neighborhood, Temesvarer-Cometats, in Hungary, and here I confine three combs (10x8 inches), for the queen to lay in, and find them sufficient to maintain the standing of the hive. The working bees can pass in and out through the meshes of the wire gauze, but the queen cannot; if I place it over the three combs in the centre of the hive, so that the combs and

queen are covered at the top, sides and bottom, the wire gauze reaching to the bottom of the hive. The queen will thus lay only in those confined combs, while the other combs will remain free from brood and will be filled with honey. The form of the wire gauze frames is thus: ⊓ Its sides are movable. By this plan, also, can the drones be caught. A false bottom, however, is needed, by which the entrance of the hive is divided into two parts, the wire gauze covering the upper half of the entrance. The drones, on leaving the hive, pass through the gauze, and in returning pass in underneath the false bottom, where they can be captured and destroyed. Should I desire to have drones, I add a drone comb to these combs under cover. My apparatus will do to cover from six to eight combs.

Can bees be in winter too warm?

Dzierzon: It is known to all that warmth is the element of the bee—cold is its death. In winter, should the cold become too great, it may be injurious to the bees, at all events it will cost the honey which the bees will have to consume, in order to maintain the proper degree of animal heat. It is always better when the bees can maintain a proper and even temperature without the exertion of seeking honey. I believe that Herr Schonfeldt has not rightly comprehended his subject. It can happen that a swarm too much protected for the winter may suffer, but will suffer less because it is too warm, than from another ground—the difficult access of pure air. The hive may be too small, or the want of air may arise from the hive being overcrowded with the honey, thus hindering the admission of air; for the space occupied by the combs excludes just so much air—two bodies never being able to occupy one and the same place at the same time. How would it be possible for a swarm to be wintered too warm when the heat comes from the bees, and not from the sides of the hives? It is true, that in the example given by Herr Schonfeldt, when an outer and higher temperature be artificially produced, it may be injurious to the bees. The bees would be stimulated to breeding, when they should be resting. That would naturally be injurious, but the hive cannot of itself, according to my understanding, be too warm. The bees are able of themselves to regulate the temperature to suit themselves. Should—through any disturbance—the temperature be raised, some of the bees will appear at the entrance and create draught which will soon cool the hive. I am of opinion that the question must be answered in the negative. In my experience, that hive is nearest perfection which most readily holds fast to the heat and does not allow it to radiate, as then the bees will not be compelled to use unusual quantities of honey in order to generate heat. The better the sides of the hive prevent the heat from escaping from the inside, so much the better will they in summer prevent the heat of the sun from entering the hive. Thus they will be warm in winter and cool in summer.

Herr Kneipp: In all the experiments I have made, I have found that the buried bees wintered best. They have an even temperature, which is a great advantage. I not alone have buried my bees for some years past, but others also, and always with the greatest profit. The stocks are weighed before they are placed in winter quarters and when they are removed. With from three to four pounds of honey populous stocks winter well. The attempt to winter bees in a warmer temperature did not prove a success. My hives, owing to the warm temperature, obtain young brood too soon and become very restless. As soon as they are allowed to fly in the early spring, owing to the wants of the brood, the bees instantly seek pollen and thus many are lost. I have also made the experiment of wintering in an arched cellar, bees in a Dzierzon hive, leaving the side door open, and have succeeded well, but the burying turns out better.

Herr Kuhne: I would briefly say that for Upper Austria the wooden hive is absolutely injurious. We can only use hives made from straw or rushes. It gave us no little trouble, yet in the end we succeeded in reinstating the old straw baskets, so built as to admit the introduction of movable combs. In these hives the bees winter wonderfully well; they are permitted to remain on their stands without further protection, both winter and summer. In these hives you discover neither thirst, ice, mouldiness, nor anything else injurious to the bees. The bees adapt themselves to their climate, and all artificial arrangements to aid them will be injurious, and more especially when it is undertaken to give them a temperature at variance with the climate in which they have been reared.*

Herr Schmidt: I live in a locality where the honey very readily crystalizes, and I found the difference in wintering stocks in hives that are warmer; *i. e.*, pavilions. Here the famine will first break out. For the last few years I have proceeded in the following manner: As soon as I noticed, during the winter, that the bees were becoming restless, I removed the straw covering. Usually by the following day the swarm is quiet, but, if they are not, I place upon the top of the hive two pieces of ice, the size of my fist, and almost immediately they become quiet. A dampness will be precipitated on the walls of the hive by the cooling of the top, which will give the bees the needed moisture with which to soften their candied honey. I now never use the new hives before I have given them two coats of varnish, whereby the wooden walls

* Have any of our American bee-keepers wintered their bees in straw baskets; if so, what has been their experience? G. S. W.

loose the power of drinking up the moisture, and thus prevent the bees from obtaining the needed moisture for dissolving their sugared honey. I have also a third remedy. When there is candied honey in the hive, take four pounds of flour mix one ounce of tartaric acid with it and permit this mass to boil for two hours on the fire, then remove it and pour into, stirring the mixture at the same time, two to two and a half ounces of prepared chalk which has previously been dissolved in water. The sugar through the boiling with tartaric acid loses its power to crystalize. This surrogate I have always fed my bees upon during the continuance of the honey harvest until the end of September. It has the advantage that it is carried by the bees to their broad combs and is first used. I have found that bees treated in this manner have wintered best.

Wertzel, of St. Mariex, in Steiermarck, Herr Kuhne spoke very warmly against wooden hives. I am from Steiermarck where great numbers of straw hives are used, especially in the hilly, cold regions. For ages back immovable comb hives have been used. Such hives I have seen standing along the wall to the number of from 30 to 40 set out. The bees left to themselves winter very well in wooden hives. In my neighborhood, near the Gleiehenburg Baths, until recently straw hives were alone used; I was the first to introduce the Dzierzon hives. From that time forward it has not been unusual to meet with apiaries of 10, 20 and 30 Dzierzon hives, in which the bees have wintered very well, and the straw hives are constantly disappearing, and no one complains that the bees have not wintered just as naturally in these Dzierzon hives as in the others. The combs in the hives must have the needed supplies, the hive must be warmly surrounded, and then the wood will be just as good as the straw, letting out of view many other advantages. Of this any one can convince himself by visiting our neighborhood.

[THE END.]

[For the American Bee Journal.]

Adair.

MR. EDITOR.—I am sorry that my venerable friend, Mr. Chas. Dadant and his estimable son, should have taken offense at anything that I said in my communication in your April and May numbers, for I meant no reflection on Mr. D., nor did I think my language could be so construed.

It was unfortunate that the resolution of thanks to the Italian Bee Company was introduced by Mr. King, who was associated with one of the company in the editing of a bee journal; and, the remarks I referred to as having heard, I supposed were based on that fact, and not upon any known connection with Mr. D., who I never heard spoken of by any one except in the highest terms. Mr. D. is assured that I have no doubt of the truth of his statements about his connection with the importation, nor do I wish to be understood as deprecating his efforts; for while I think he is wrong in his notions about further importations in an *indiscriminate* manner, which is necessarily the case when large importations are made. I have never doubted his sincerity and honor, and I am firmly of opinion that his labors in his own apiary, in judicious selections and cultivation of the bees already there, for the two years he will have spent in Italy would be of more benefit that all the bees he will import.

I will not take up your space in repeating what I wrote in those two articles. The facts stated are not on my authority, but mostly quotations from Mr. D.'s own statements, and if the reputation of the Italian bee is injured he has contributed more to do it than I have. But I will take a little space to notice the following paragraph from Mr. D.'s article in your May number.

"As to the importation of more bees to the United States, according to Mr. Adair, it is useless, *if not injurious*. But he would be greatly embarrassed if I asked him why?"

Now this is not a fair statement. I did not object to the "importation of more bees," but to a wholesale, *indiscriminate* importation. Such I do consider useless, for what is the necessity for going to the trouble and expense unless we are getting something better than we already have? As to the evils of "in-and-in" breeding I am of opinion that Mr. D. "*would be greatly embarrassed*" if he undertook to prove that "every observing bee-keeper had noticed the inconvenience of consanguinity;" but I will not discuss that subject now, except to say that the most observing breeders of all varieties of animals, find that there is nothing in it—but, upon the contrary, it is upon that practice alone that desirable improvements can be secured, and is only injurious when it perpetuates and intensifies some physical or organic defect. But he italicizes "*if not injurious*." I feel no great embarrassment in pointing out wherein it may be injurious, although I did not so state in my communication.

From the first settling of America, until the beginning of this century, we have the best of evidence that the honey-bee was free from disease and parasitic insect enemies. Since then we have imported both, viz.: foul-brood and the moth, if not something worse than either; I mean the "bee-disease," so-called, or bee-cholera, that has been so destructive of late years in the Northern and Western States.

The honey-bee is—in Europe—afflicted by a number of insect parasites, and parasite fungi, which have not as yet been introduced into this country, and I should consider it very *injurious* should any more of them be imported. That

terrible pest — *Phora incrassata* — that preys upon the pupa in the sealed cells, and is by many considered the principal cause of *foul-brood*, has not visited us yet. The *bee louse* (*Braula Cœci*), that lives parasitically on the body of the bee in Europe, causing great annoyance and destruction, has not been imported. The *Trichodes Apiarius*, which devours the young bees in the cells, has not yet been detected in this country. The *Meloe*, the *Sitaris*, and *Stylops*, parasitic insects that live on and in the bodies of the bees, the first of which also preys on the *larvæ* in the cells, are still, so far as known, strangers to our apiaries. While we have the wax moths, *Galleria Cereana*, already naturalized from Europe, to our sorrow; the equally destructive wax moth, *Achroia alvearia*, has not been brought over, nor has the intestinal worms, *Gordius subbifurcus*, and *mermis albicaus*.

These are, perhaps, but a moiety of the pests that we are in danger of from importations of bees, and with the experience we have with imported insects generally, the introduction of any one of them would likely be of more injury to us than all the advantages we would secure by importing free of cost every bee in Italy.

The Editor of the *American Entomologist*, Mr. C. V. Riley, in the number of that journal for February, 1870, says:

"On a careful and close examination, it will be found that *almost all our worst* insect foes have been imported from the other side of the Atlantic," and in confirmation of the statement he enumerates the *Hessian fly*, of which Prof. Lockwood says in the *Popular Science* monthly of September last, "That all the combined whirlwinds and destructive storms that have ever swept over portions of our land have not robbed the national wealth so much as this almost invisible, tiny creature, that dances in the sunbeam," the wheat midges, the bee-moth, the codling-moth, that is such a formidable pest to the apple and pear, burrowing into the cone of the fruit and causing it to fall off; the cabbage tinea, the red currant bores, the oyster shell bark-louse, the grain plant-louse, the cabbage-plant louse, the cheese maggot, the meal worm, the grain weevil, the house-fly, the cockroach, the croton bug, and the different carpet, clothes and fur-moths.

He enumerates, as more recently imported, the asparagus beetle, that has become naturalized in New York and New Jersey. The rape butterfly, or cabbage caterpillar, a green caterpillar that eats the cabbage heads, almost honeycombing them. It was imported to Canada first, and entered the New England States, and in 1869 was in Northern New York, since which it has spread as far as Kentucky, and is fast belting the land with a scourge.

It is as bad with plants as with insects, for nearly all of our most pernicious weeds have been imported among us from the Old World, as, for instance, dog-fennel, Canada thistle, common thistle, burdock, plantains, mullein, toad flax, bind weed, Jamestown weed, lamb's-quarter, smartweed, fox-tail grass, buttercup, cowcockle, and the notorious cheat or chess.

Mr. Riley estimates that each State loses, annually, from fifty to sixty millions dollars from those insects alone, or $2,000,000,000 is lost to the whole country every year. He shows further, that insects which, in Europe, are either nearly harmless on account of fewness in number, when introduced here, multiply at a prodigious rate, and acquire herculean powers of doing harm.

Upon this ground alone I am firmly convinced that unless the bees imported are preferable in some respects to those already brought here, that we are blind to the experience of the past if we do not profit by our misfortunes in this respect, and while contending with the plagues that already threatened the destruction of the culture of the bee, keep a watchful eye on every probable source of greater evil.

The wonderful productions of the Pacific States, in fruits and vegetables, is largely due to the fact that they are as yet free from the many insects and fungi that dwarf and destroy our crops here, and had a little care been used when the honey bee was introduced, then they might have been free from the ravages of the bee-moth. But I think I have said enough on this subject.

In your journal for June, my young friend, Mr. C. H. Dadant, undertakes to review my communication in your May number. I am sorry that he misunderstands my position so much as to construe anything I have said as an attempt to detract from the conceded merits of the Italian bee. When I say conceded, I mean the opinion of disinterested persons, who are not blinded by the novelty, nor prejudiced by pecuniary interest in the sale of them. But he seems, although agreeing with me in my suggestions as to improvements, to be desirous of making it a personal matter, and takes occasion to speak slightingly of my hive, and closes with some irresponsible gossip about my being interested in *starting the grey bee*, as he italicizes it. All I wish to say in answer to this unkindness, is, that so far as my hive is concerned I have uniformly avoided any allusion to it in my communications to the A. B. JOURNAL, except when first spoken of by others; nor will I now depart from my convictions of the self-respect that I think every bee-keeper should have, and descend to the tricks of the drummer and charlatan, as so many have done. If my hive has merits they can be published legitimately. As to the Grey bee, I will only say that I have no bees for sale, nor do I ever expect to raise the Grey bee, nor any other for sale; but I am in hopes that few of your readers have formed so low an opinion of me as young Mr. D. has. What I have written on the subject of improved

breeds of bees was not intended to injure Mr. Dadant in his business. I had my opinions and I wrote them, and I have another opinion, which is, that comments of the description that characterizes young Mr. D.'s communication would have been in better taste from some one who was less interested in the importation of so-called Italian bees, for ill-disposed readers will be very apt to say that those who are looking out for interested motives in others, are very likely to be prompted by the same kind of motives themselves.

Now, Mr. Editor, when it comes to such a pass that we cannot discuss questions connected with bees and their culture, on their merits alone, without looking for a dull axe behind every sentence, I--for one--will have nothing to do with it. D. L. ADAIR.

Hawesville, Ky., July 27, 1873.

[For the American Bee Journal.]

The Honey Bee.

QUEEN BEE—HER TREATMENT BY HER SUBJECTS.

The scene presented by the interior of a bee-hive has seldom failed to interest even the most careless observer, while it fills with astonishment the mind of the enlightened and profound philosopher. When the day is fine and the sun shining brightly, the habitation of these marvellous little creatures exhibits the aspect of a populous and busy city. The gates are crowded with hundreds of industrious workers—some on the wing in search of forage; others returning from the fields laden with honey and pollen; some busily engaged in building comb; some in tending the young; others employed in cleansing their hive, while four or five may be seen dragging out the dead body of a companion, and, as it would appear, scrupulously paying the last honor to the dead. It can, therefore, excite no wonder that the habits of these interesting insects should have attracted the attention of some of the best observers of ancient and of modern times. History does not inform us who first drew these insects from the wilderness and rendered their industry subservient to the purposes of man.

A community or swarm of bees consists first of workers; these are undeveloped females; amount generally to many thousands in number, and are easily recognized by their industry and by the smallness of their size; second, of males, or drones, of which several hundreds belong to each stock; these are larger than the worker, and live idly; over all presides a queen, the most important member of the whole of this little commonwealth.

A person may keep bees in the common box-hive for years, and never see this insect, about which more extraordinary things have been seen and written, than the reader would be disposed to believe.

Reaumur and Huber fully determined the influence which the presence of the queen has upon her subjects. The former divided a swarm and placed them in two glass hives, one of which, therefore, had a queen; the other being without one. The account which he gives of the conduct of the bees is too curious to be omitted. I give it here in his words: "After the tumult, excited by their removal into a little glass hive was calmed, and I had looked at it for ten minutes, for the first time of my life, I succeeded in seeing a queen bee, which was walking at the bottom of the case. I was recompensed in this instance, for my disappointments in the various attempts that I had previously made, for now I could view her as often as I wished. Indeed, I had it in my power to point her out to a large party who were at my house, not one of whom but evinced the greatest curiosity to see this renowned sovereign. For the first few minutes, in which I followed her with my eyes, I was tempted to believe that the stories of the respect paid her by the other bees, the train by which she was attended, were imaginary fables rather than real facts. She was alone, and walking perhaps at a slower pace than the rest. The friends who were with me were pleased to discover in her gait something of gravity and majesty. She advanced, unattended, to one of the squares of the hive, up which she mounted to join a group of her subjects at the top. In a little time she reappeared at the bottom, but still sadly neglected. She ascended a second time, and I lost sight of her for a few minutes; she then appeared for the third time at the bottom of the hive. Now, however, twelve or fifteen bees were ranged around her and seemed to form her train.

In spite of my inclination to believe that the first train which I had perceived was the effect of chance—in spite of my disposition to think that a big bee would be followed precisely because it was big—I was forced to acknowledge that there was some other foundation for the homage, the cares, and attentions which the rest paid to her who was destined to be the mother of a numerous progeny. The queen, with her little suite, disappeared for a moment among a cluster of bees. In a short time she reappeared at the bottom of the hive, when a dozen others hastened to join the train. A row flanked her on each side as she walked, others met her before, and made way as she advanced; and, in a very short time, she was surrounded by a circle of upwards of thirty bees. Some of these, approaching nearer than others, licked her with their trunks; others extended this organ filled with honey for her to sip; sometimes I saw her stop to partake of the food, at other times she sucked while in motion.

"For several hours, consecutively, I observed this insect, and always saw her surrounded by bees who appeared anxious to render her good

offices." The reader will remember that this was before any kind of movable comb hive was in use, or even thought of, and can understand how much Reaumur was delighted when he saw the queen for the first time.

The further detail of the "History of the Divided Swarm" is equally instructive.

RENEDIUR.

[TO BE CONTINUED.]

[For the American Bee Journal.]

Letter from New Bedford, Mass.

The past winter was so severe that many lost more or less of their colonies, but thanks to my bee house none of mine died. I have put my bee house also to another use, which greatly increases its value to me. I use it for a fruit house. The bees keep the temperature just above freezing, and grapes and pears keep remarkably well. I had a few vicar of Winkfield pears as late as March, and the Sieulle, so difficult to ripen without shrinking and becoming leathery, were plump and mellow into January.

Notwithstanding the great drouth we have had, the crop of honey has been quite good, both in boxes and by the extractor. In fact, owing to the prevalence of bass and tulip trees, for shade and ornament in the city, we seldom have a "miserable honey season."

From some cause unknown to me, I found about the last of April, a few cells of foul brood in three of my best hives. Now how did this happen when I have been free for two years. I have no doubt but that Alley, who likes to catch one on the hip, will say, "just as I told you; better burn and bury, or sooner or later it will return." Now two years is a long time for it to wait before reappearing, especially in hives and colonies that are entirely new within that time.

I can *guess* how it was introduced. When I first set out my bees the last of March, I fed with rye meal, and (very unnecessarily) put some honey in a plate on the edge of the feed box, which was knocked off and mixed with the rye; as it was moist or rainy and cold for a number of days the honey and wet rye was left carelessly to ferment before the bees began again to work on it. I soon removed it when the error and carelessness was discovered. I am afraid there are others careless as well as myself, and perhaps in the same way.

Well friend Alley, I did not bury or burn, neither was I much alarmed for my twenty colonies, over whose health and prosperity I had for two years been boasting, for I knew that I could control it, and in this instance probably with very little trouble, for I have a theory that if the first few cells of a foul brood are destroyed before the bees undertake to remove it, and so mix it with the honey and feed of the hive, the disease is removed, radically. It would be an interesting experiment to put a frame of foul brood protected by wire gauze from contact with bees, into the center of a full colony, to determine the question whether actual contact with the disease is necessary for its communication, or whether it can be communicated through exhalation. I have never heard of a well authenticated case where it was not communicated by the access of the bees themselves to the disease, or cause of the disease. I believe it takes some time for the disase to be virulent or rather extensive in the hive when it commences with only a few cells in this way, and that the bees are capable oftentimes of curing themselves by removing the dead larva before they have become really putrid and that animal poison developed with that disease which we in medical term call septicemia.

From the circumstances that there was no foul brood in the fall, or appearance of it in March when I set out the colonies, at which time I made a careful inspection, I was satisfied that the disease had only just commenced, and I was in time I thought to easily cure by pruning. I carefully cut out every cell diseased and the two or three healthy cells around it, and from one hive where the disease was the worst removed the qneen to be sure that all dead larva should be seen before a new generation was started. I was entirely successful: not a trace of disease showed itself afterwards. The number of bees in the colonies was small the space occupied by brood was comparatively small, so that I had every advantage in my favor of finding easily all the disease.

I did not care to nurse up this pest into virulence in order to make a cure in some other and more difficult way although I was thoroughly tempted to leave one for the experiment of curing by feeding the medicine without using the spray douche, or washing the combs in a disinfectant. Besides, I would like to have made trial of that new and nonpoisonous antiseptic and disinfectaut, bromo chloralum, a suggestion for its use I saw some time ago in the JOURNAL, but cannot again find it. I have seen in the JOURNAL, and heard by letter that cures have been made by feeding alone. I should like to try feeding with bromo chloralum, and at the same time spraying the hive and combs with it once or twice a week. It is entirely harmless, as I have made the trial of feeding it to a healthy nucleus without any injury to the brood. I put one ounce to a pint of feed.

You see, dear Journal, that I still have faith in medicine, sulphate of soda and bromo chloralum. Only when it is safe, (and it requires judgment to know when it is safe,) pruning is so much more simple, and next to this Mr. Quimby's mode of brushing out the bees and making a new colony, and next to this medicine.

Yours truly,

ED. P. ABBE.

New Bedford, Mass., July 26, 1873.

[For the American Bee Journal.]

Greenhorn's Views of Some Things.

Mr. Editor.—As your paper seems to be open for discussion, I will inflict on you and your readers some of my green ideas.

Every man has an undoubted right to defend his own property, but if that property should be offered for sale, then the public has a right to examine and fix its value. Any individual member of the public has the right to express his opinion thereof, both orally and in print. These are the rights on both sides, and in Greenhorn's opinion neither party has a right to complain of the other, unless false statements are made.

Now the patent bee-hive men come at us "greenies" with their flaming advertisements, praising their property, and how are we to judge properly of the thing, unless we can get some cute "Novice" or other to point out the defects too? With both sides of the picture, then we can judge for ourselves.

Friends Hazen, Alley and others pitch into Novice as if he has committed some great crime, contending that, as the laws of the country have given them patent rights, they are therefore at liberty to kill us greenies *secundem artem*, and if any blame is to be attached it must be laid to the laws, and not to the patentees; and, like the doctors, their song is, "God *giveth* and God *taketh away;* praised be the name of God;" though sometimes the worst blunders and impositions have been made.

Now, sir, setting aside the fact of great latitude being allowed in the matter of granting patent rights, let us suppose a man gets a patent for something in my line of business, and I find it is of little or no value to me, must I buy it because he has got the patent? And if a friend applies to me for my opinion of it, must I refuse it because a patent has been granted on it? This is Novice's situation. By experience he has found out the futility of many of the so-called improvements, and as we greenies have discovered (Novice's pieces A. B. J.), that he has sharp eyes as well as a sharp pen, we have made bold to ask his advice, and have induced him to publish his advice. (Gleanings.) Now, as long as Novice is honest in his statements, has any one a right to say, stop him? I think not.

Let us see if we greenies don't need him—just one, out of *many examples*. Not a hundred miles from here lives a fellow-greeny, who was run afoul of by a flaming patent-right man, and bled to the tune of $30.00. Farm right and hive, simply for the privilege of placing four hives back to back, with holes communicating; and also placing smaller boxes in like manner on top. What a pity Novice was not on hand with his friendly nudge-in-the-side. (Gleanings.) His pitiful seventy-five cents saves many a $30.00, more or less, in the United States.

If I understand Novice aright, he means to unearth all *worthless* patent rights in the bee line, and I for one must say, success betide him. Here is what he says, Gleanings, Vol. I, No. 1, p. 1:

"One of the most lamentable wrongs in bee culture is the custom of taking money for a 'a right to make and use' a hive, knowing that the buyer could 'make and use' a hive so nearly like it as to answer every purpose, without using a 'single one of the patented features.' It will be our especial aim to fully inform the public of all such transactions."

In another number, Novice says that the above challenge should be a bomb-shell, and from the way the fur is flying, I think his shell bids fair to be effective.

Once more: If a man has in reality anything that *is valuable*, he need not fear that we greenies will throw it aside (when satisfied of its utility), though Novice's bomb-shell should explode near by; for those shells will not hurt anything which is of itself bomb-proof—truthful and useful. Yours in need of light,

Greenhorn.

[For the American Bee Journal.]

A Day with Mr. Adam Grimm.

The 4th of August will always be remembered by me as a pleasant day, for it was spent with Wisconsin's bee-keeper in looking over his hundreds of swarms of Italian bees. After a walk of a mile and a half through the hot sun, from the depot, I reached his cool, pleasant retreat, and found him up to his eyes in bees. He gave me a warm welcome, with a smile on his genial face that showed his hospitable nature. It did not take long to get acquainted, and we were soon deeply engaged in talking *bee*, and Mr. Grimm *can* talk, and knows what he talks about. He was busily engaged in examining stocks, taking out honey, forming nuclei, introducing queens, etc., and getting his stocks ready to send off to the buckwheat fields, which he had been doing for several days; two loads a day generally, twelve to sixteen hives to a load. His boys do the hauling, while he prepares them for their new harvest. He now has eight hundred (800) swarms in eleven (11) apiaries, from four (4) to eleven (11) miles from his home apiary, and it keeps him on the jump to tend to them all. Says he hardly gets time to read the Journal, much less to write for it. We will excuse him *now*, but when the season's work is over, and his little pets all safe and snug, *then* we shall expect to see something from him in the Journal. Basswood is his main dependence, but this year his bees were not in the best condition to profit by it, so he will not have so large an amount of box-honey as he otherwise would.

He has no stocks or queens to sell, prefering to keep and increase them another year. He

does not like the extractor for market, as he cannot make people believe it is all honey that he ships. They cannot comprehend the extent and success of the business he is doing. To see fifteen (15) or twenty (20) barrels of honey at the depot, awaiting shipment, is likely to raise the idea of *molasses*. Mr. Grimm's plan of getting bees out of honey-boxes is as novel as it is original. He takes off his full boxes all at one time, places them on the floor of his bee-house, one deep, holes upward, each box touching its neighbor; then places a hive containing brood and honey and a caged queen in the centre of the pile, raised on blocks one-fourth inch high. The bees come out of the boxes, gather in the hive and form a new swarm. He keeps them there a few days, then releases the queen, takes the hive out into the yard, and there is his boxes clear of bees, and a new swarm. His bee-feeder beats anything of the kind I ever saw, for rapid and convenient feeding. And his *smoker* is the handiest thing out. He went through dozens and dozens of stocks, partly for my benefit and partly for his own. It was a real treat to see so many bees and queens, to one who has never been used to seeing more than fifty (50) or sixty (60) stocks in one place, and they all blacks. Mr. Grimm's Italians can *sting*, as a swelled fist could attest. In the afternoon, when the young bees were out for a frolic, it sounded like a dozen big swarms coming off at once. I was shown the figures of Mr. G.'s business for the past five or six years, and it was enough to make us little bee-keepers catch our breath in dismay at the thought of ever trying to do *half* as much. Then to see the hives, boxes, frames, and all the fixings for the business, was enough to make every bee *dig* all the harder at the sight of it. I had a very pleasant time, and am afraid I taxed his patience some, for he spent two or three hours in showing and explaining things. I take this opportunity to again thank him and his family for the courtesies extended to me.

Yours truly,

W. M. KELLOGG.

Janesville, Wis., Aug. 5, 1873.

For the American Bee Journal.]

From Nebraska.

MR. EDITOR:—I have been a reader of the AMERICAN BEE JOURNAL some four or five years, and I believe have never asked the favor of space in its columns. Will you grant the little space asked for now?

I am very much interested in bee culture. I have now twenty-nine stocks. I have never had any disease among my bees. I winter in the cellar where no vegetables are kept, and with the temperature as nearly at the freezing point as possible. I feed in spring both unbolted rye and syrup. Although I cannot boast the large success attained by some, I am fortunate at least in meeting with an average. I took nearly 800 pounds last year from fourteen colonies.

In addition to the A. B. J., I take the *Bee-Keepers' Magazine*, the *National, Gleanings*, and several agricultural papers more or less devoted to this branch of industry. My bee journals are among the first I read, and generally with the greatest interest and profit. But in the July number of the A. B. J., page 15, is an article from a man (?) calling himself "Simplicity," with which I am particularly disgusted. Tastes differ. Because "S. Plicity" can see nothing to admire in a beautiful picture, is that any reason why others of different culture and temperament should not gratify their taste? In plain view from where I write, can be seen the five chromos of which "S. Plicity" would make sport. They are admired by all the family, as well as by the numerous visitors who from time to time call at our house. Am I fortunate or unfortunate in being possessed of a taste for the beautiful in art as well as nature, and in drawing around me a circle of friends of like taste.

According to "Simeon," the editors of the *Bee Keepers' Magazine*, a work devoted exclusively to bee culture, have grossly erred in stitching onto the said magazine a couple of extra leaves, to be used for advertising purposes, whereon the qualities of the "5 superb chromos" have been properly set forth.

Will Simeon tell us in his next, of the practical benefits in bee culture to be derived from reading his article. We have read it attentively and "can't see it."

O. HARMON.

Nebraska City, Neb., July 17, 1873.

NOTE BY ED. A. B. J.—"Simeon" needn't answer the question at the close of the above communication, because we have had *quantum suff.* about the chromos. Mr. Harmon is quite right in doubting any practical benefit to bee culture comes from such dicussions. Whether the chromos are miserable daubs, or beautiful works of art, is a question the solution of which will not affect the honey yield of the country a particle. Our space can be put to better use than either telling the public that "S. Plicity" despises the chromos, or that our Nebraska friend is enchanted with them. We think now it was a mistaken editorial lenity to publish "Simeon's" strictures. Having done that, we could hardly refuse to insert Mr. Harmon's reply. We have dealt out impartial justice, as well as we know how. *Exunt* chromos! Adieu chromos!

THE greatest enemy of the bee is the ignorance of man.

DZIERZON.

[For the American Bee Journal.]

Little Things.

(These, Mr. Editor, I must class with my "Jottings from the Apiary," in July number of the present volume.)

It is an old axiom, "Save the pennies and the dollars will save themselves." Why may we not coin a similar one for the apiary? "Do little things for your bees (*and at the proper time*), in return they will do great things for you." And now for a few little things:

Feeding.—If the honey product is scarce in the fall, feed to induce the breeding of young bees for wintering; feed in the spring to induce breeding, and have each stock strong for the honey harvest, and for making swarms.

Supers.—Do not extract honey, or place supers on or around your hives until you are satisfied the *winter home* of each colony is filled with stores.

Extracting—Remove supers and extract honey as fast as it is in proper condition. Honey should never be extracted until the combs have been sealed by the bees. In extracting during a scarcity of honey, be careful to leave no honey exposed; nothing will induce robbing so soon, especially in the fall, as the careless use of the extractor.

Robbing.—The most complete check upon robbing bees is to place a bunch of grass, or wet hay, over the entrance to the hive. The bees will find their way to the entrance to their own hive, the robbers will be caught by the sentinels in passing through the grass, and soon cease their pilfering.

The King Bird.—Kill him wherever you find him. It is true, he generally confines himself to the destruction of drones, but I have this summer lost two very fine queens (and probably more), from his gluttony. He will often leave his perch and snap up a worker from the blossom of the clover. Kill him, open his maw, and you will be satisfied.

Worms.—Have entrance blocks, with passages cut in them, at the mouth of every hive. Examine them every morning, and you will be surprised how much you can aid your bees in destroying the worm which produces the bee-moth.

Combs.—Both full and empty combs should be *well brimstoned* before putting away, or using for a new swarm. It is well also to brimstone supers full of honey or empty comb, and then store them in the cellar or other cool place.

Water.—Be sure to have a number of troughs, with corn-cobs and gravel placed in them, and filled with pure water, sitting around your apiary; a little salt thrown occasionally into the water is also a great help.

Spiders and Ants.—Destroy all spiders and spider-webs around the hives, and thereby save the lives of many of your bees. Ants do but little harm, merely seeking the hive for the warmth afforded by the bees, with which to hatch their brood.

To Correspondents.—Please date all your articles, and give us your residence, (county and State), as the experiments you kindly relate for our instruction may not be at all practical in our locality. "B."

Beaver, Pa., July 25, 1873.

[For the American Bee Journal.]

Wintering Bees.

There is no question that so deeply concerns bee keepers as how to winter bees successfully. If a man does not get much honey, or does not get a good price for it, but has his bees left, he can try again with the hope of doing better next time; but if his bees die in wintering, the goose that lays the golden egg is dead!

Throughout the northwest there are more bees lost every year in wintering than from all other causes combined. Last spring found, at the lowest estimate, nine-tenths of all the bees in Iowa and Illinois, dead. One man of my acquaintance lost over three hundred stands. Many persons having from ten to twenty stands lost every one.

I have kept from twenty to forty stands in the common Langstroth hive over eleven winters. During ten of these I wintered them in the cellar, and lost altogether three stands that ran out of honey. For the last four years I have not lost any. The other winter—the winter of 1865–6—on account of having too many irons in the fire, I neglected my bees and left them on their summer stands, and by the middle of February fourteen stands (just one half) were dead. I dug the others out of the snow drifts, put them in the cellar and saved all of them.

Having had such uniform success in wintering in the cellar and having examined the circumstances of many who have failed, I have thought I might help others by giving a few of the principles by which I am governed in my operations. I will state them in the order of their importance.

1. *The room in which bees are wintered, be it cellar, bee house, or clamp, must be of an even temperature, about* 38° *Fahrenheit, not going below* 32° *nor above* 44°.

If it is too cold the bees will eat too much, fill themselves with faeces and have the dysentery. If it is too warm they will be uneasy and want to get out of the hive.

2. *The bees should be put into the cellar or bee house, early, or on the first really cold day.*

If they stay out for some time after they have flown they will be partially filled with faeces, will be uneasy all winter and smear their hives badly before spring. If they stay out late there will be some moisture, perhaps frost, collected in the hive, and they should go in as dry as possible. My bees wintered better last winter

than ever before. I put them in the cellar Nov. 14, the first cold day we had, while the hives throughout were as dry as midsummer. I took them out March 10. The combs were generally dry and free from mould, and the bees strong and healthy.

3. *The room should be entirely dark.*

When this is the case and other circumstances are favorable the bees will be quiet all winter without closing the entrance to the hive, which from my experience I think preferable to closing it. If the room is light and bees are closed in the hive, they will gnaw for perhaps, half the winter, to get out. If they are not closed in, they will come out to the light and never get back.

4. *The room should be as dry as possible.*

I always put my bees on a platform about two feet high to avoid the damp air near the floor. Three years ago last winter the water was six inches deep in my cellar for some time, and the floor was damp from that until spring. I did not lose any bees, but in the spring the hives were wet inside, the frames damp and mouldy, and the bees out of sorts generally. The next summer I put a drain to the cellar, and since then the floor has been dry, even dusty, and I have had no trouble whatever.

5. *The larger the room the better.*

I have used three different cellars. One, thirteen feet square, I used one winter; another fifteen by twenty-six feet I used six winters, and the one I am now using is twenty-five by thirty-five feet. In the last the temperature is less variable, there is less moisture, and bees have better ventilation than in either of the others. Large rooms are healthier than small ones for bees as well as people.

In my experience I have not found anything additional to the above essential to successfully winter bees.

In the matter of the ventilation of the hive, I have tried having the honey board off and having it on, having the hive open below and having it closed, have taken the honey board off and covered the frames closely with clean dry corn cobs, have covered the frames with a piece of old woolen carpet folded double, but never found these things to make much difference if everything else was right.

I think perhaps the best way is to leave the hive open below as it is during the summer, and if the cellar is damp take off the honey board and cover the frames with some kind of old woolen goods.

My bees have always wintered on their natural stores except last fall I fed sugar to a few stands that had not honey enough. I believe however that white sugar syrup is better for wintering than honey if a person feels like giving the labor to make the change. The syrup is a stronger or richer food than honey, produces less faeces and consequently the bees will bear confinement longer than on honey.

I have wintered nuclei of from three to five frames (full size) for the last two winters without any trouble, but I have had trouble with them and with weak swarms during the cool weather in April, some desert their hive, some perish with cold. This time of year I am very much troubled by bees filling their brood combs with pollen. I am now taking out and saving a number of frames so filled, and next spring after giving the bees of my nuclei a chance for a purifying flight on some warm day, I will give each nucleus a frame of pollen, and a sponge of water, put them back into the cellar and let them remain there until warm weather comes if it is not until the first of June.

Yours truly,

W. J. RONALD.

Grandview, Louisa Co., Ia., Aug. 15, 1873.

[For the American Bee Journal.]

Gallup on the Adair Hive.

The reader will recollect that we promised to give our views about the New Idea Hive, etc. The hive is a continuous chamber, ten inches in height, thirteen inches in width and four feet long. After the brood nest is well established, it is placed in the centre of the hive and the ends are filled out with ¼ or ½ sections for surplus. The entrance is in one end, consequently there is but very little ventilation. It is composed of close-fitting sections, which form the hive proper, and those are inclosed in an outer case, making the hive in reality double cased. We found that in extreme hot weather, with the thermometer up to from 95 to 110 in the shade, nearly the entire swarm was driven to the outside of the hive, and in ordinary weather, too, such as we had last season, on cool mornings there would be a puddle of water in the entrance, one-fourth of an inch in depth, for the bees to wade through. But in an even temperature, of from 75 to 85, everything worked satisfactorily.

Mr. Adair claims that the sections are an advantage over the open Langstroth frames in economizing the animal heat, etc. He further says that the queen does not deposit eggs to within about one inch of the wood or sides of frames, etc. (We are quoting from memory, and may be a little out of the way.) Now, Mr. Adair's hive may be ventilated all right for his climate; therefore we are not going to accuse him of falsehood. The close sections have the same objections that all combs have that are fixed at permanent distances, and are not *near so easily* manipulated, without crushing bees, as the open Langstroth frames. And we think that Mr. Adair's objections to properly constructed open frames will not hold good. But we think Mr. Adair has the right form for a hive when we come to understand how to work it. The reader will recollect that we formerly had objections to this form of hive, because we

and several others had failed entirely with it. But we failed in not getting Mr. Adair's idea of moving the entire brood nest back from the front.

You will see a communication from Upper Canada, in the December number, on his (the writer's) objections to combs running crosswise of the entrance. But if he will adopt Mr. Adair's plan, and move the entire brood nest, after it is established, back to the rear of the hive, I think he will succeed. I again refer the reader to Progressive Bee Culture. (There is such a thing as progressive bee culture.) Also, to *Annals of Bee Culture* for 1872, for Mr. Adair's claims on his form of hive, etc. The hints there thrown out are well worth a close and impartial examination by the progressive bee-keeper. "Novice" *cannot stop to theorize;* but it is (or was) by theorizing that our very best posted bee-keepers have arrived at their present standard of bee-keeping. Webster says: "Theory is a deduction from established truth, from which it follows as a necessary consequence." There may be truths which we do not yet fully comprehend, even in bee-keeping. We are well aware that many will fail to understand or comprehend Mr. Adair; but that is no proof that he is not in advance of a large proportion of bee-keepers. E. GALLUP.

[For the American Bee Journal.]

Letter from Tiverton, Canada.

Thousands of colonies of bees perished in Canada last Spring, owing to the *clear, cold* weather, and *raw, frosty* winds with which we were visited, the poor little bees were enticed out of their hives, with the clear light, and warm rays of the sun, but the cold frosty winds prevented their return. In this locality, they could not safely venture out before the *middle of May!*

My bees were taken from winter quarters on the 17th of March, and almost in as good condition as when put in on the 30th of November, except one colony which died for want of food. But some of them soon became so reduced that had I not united them, they would have perished. With care, however, I got them through to the warm season.

But could not some remedy be suggested, Mr. Editor, to prevent the bees from leaving their hives on unfavorable days? Novice tells us that he has the entrances of his hives toward the East. Is this done to meet the difficulty alluded to? Since the middle of May, the season has been all that could be desired for bees; and twenty young Italian colonies have been added to my apiary, all of which are strong and active, and honey is now collected in great abundance from basswood blossom and white clover; though I am sorry to say the former is not so plentiful this season as on former years.

I have been using the extractor pretty freely last month, though not to the same extent as some on your side of the line report. I am not yet reconciled to the system which leads to the removal of all honey in the Fall, and then feed with an inferior food. The little industrious fellows deserve the very best food during those dull months they are imprisoned with snow and frost, and with me, the hive that does not weigh 30 lbs., including bees, comb and food, in November, is marked *under weight*, and my attention is fixed on it early in Spring, more than on any other.

In my letter last year to the JOURNAL, I stated that I discovered a worker bee hatched in a queen cell; the same thing has met me this season. There is nothing to distinguish the cell from another queen cell, except that it takes a longer time to hatch than when queens are produced.

If you think the above worthy of a place in the A. B. J., you can insert. Wishing the A. B. J. prosperity,

REV. I. ANDERSON,

Tiverton, Bruce, Ontario, Canada, Aug. 5, 1873.

[For the American Bee Journal.]

Will R. King.

DEAR JOURNAL.—It has been a long time since we sent a communication for your columns, in fact, Mr. Editor, we have written nothing for the JOURNAL since it has been edited by you. This is not because I did not wish to write, but because most of the time we have not been able to write; in the outset we must say, that we think the journal has improved very much in the past six months, not that Mr. Wagner did not give us a good journal, no no, but bee keeping has progressed very fast and we find that our old war horses are still at their posts, and that they have kept up with the age in which they live and at all times are ready to tell us what they have learned; we even see that some of our "novices" have discovered that first-class bee hives can be made for $1.00 each, ha, ha, we wonder how long it will take them to get this well "rooted" in the minds of North American bee keepers. We are very much afraid that another long cold winter like the past will freeze it out, sap, "root," and all. If a wooden moulboard plow only cost one dollar I must buy it and use it, even if I cannot kill the weeds so well, or plough so deep, just because a good strong well made steel plow will cost from $2.50 to $5.00.

We are indeed glad to see that friend Freeman, of Olustee Creek, Alabama, is a reader of the journal, for it has only been about eighteen months that he was an advocate of *nine feet of lumber, saw and hatchet, and a few nails; or, if this was not convenient, to take a hollow log for a hive.* Glad to know that he has come to the conclusion that the honey Sampson found in the carcass of the lion was indeed in a movable comb

hive, for the combs indeed must have been attached to the ribs of the carcass. Mr. Editor, these bee journals are doing a great work, and will eventually enlighten the whole world; we see from the last *North American Bee Journal*, that A. F. Moon has quit his journal and gone down into Georgia to peddling the Thomas bee hive, and has left a painter by the name of McFearson the bag to hold. We were at Indianapolis a few days ago and undertook to find him (Moon), but no Moon was to be seen or heard of; all was "total darkness." The office was closed up and the newspaper curtains were down. There was no crape on the door, but from what we learned we would not wonder that there would be very soon. A strange phenemena, "the Moon" arises away up in the northwest and sets away down south. But then we are prepared to hear almost anything and not be astonished in these times of dollar hives, and no mistake.

We have not been able to give any attention to bees this season, but those that passed through last winter have been doing well this season, and we believe all will go into winter with as many or more than they did last winter. I have reference to Ky.; I am now at Champaign, Ill., on a visit to friends, recruiting my health. I find that bees are doing well in this section as it has been very seasonable here.

[For the American Bee Journal.]

How we Appreciate Novice and Rowell.

The only reply I have to make to Novice and Rowell's articles in the last (August number) A. B. J. is this: I will furnish any one with bee-hives of any style, that he does, or anything else in the bee line (provided it will not infringe upon any patent or upon the rights of anyone, as I won't advertise to break the United States patent laws, or the laws of decency,) ten per cent. less than what Novice says he will do it for. I will guarantee that the stock and workmanship shall excel his in all respects.

I will not furnish bed-quilts nor pillow-cases, as such things are not needed about our hive. We have made arrangements to have hives and material shipped from a factory in Ohio, and we will soon have an advertisement in the A. B. J., giving full particulars.

I make this statement, as the western readers may say that the difference in transportation charges may amount to more than the ten per cent. We are not to be outdone by any man in the bee kingdom. We were the first to reduce the price of Italian queens so that they could be purchased at a low figure. We made arrangements, years ago, with Mr. Langstroth for selling his hive in the territory owned by him; and we can furnish those $1.00 hives that cost $3.45 (see article on pp. 36 and 37, August number A. B. J., under the head of "Dollar Hive," by "T. S."), at figures much less than Novice can begin to. We wondered how it was that he could sell the two-story hive so low, but we had no idea that there was any deception about it.

Mr. Rowell has an idea that we feel considerably hurt by Novice's articles in the A. B. J. Let me assure you, Mr. R., that we do not feel in the slightest degree that way. And we are not afraid to read N.'s articles. If you want to read the advertisement on first page under Novice, I won't object to it; but we have read that same old advertisement so many times that we know what he has for sale. If you can't remember you had better read them, as they appear in each number of the paper.

I am glad that you appreciate them, even when they are in the wrong columns. This is not intended as an advertisement, but only as a fitting rejoinder to Novice and Rowell's articles in the August number. H. ALLEY.

Wenham, Mass.

[For the American Bee Journal.]

To Novice.

Mr. Novice, you must remember, when you tell us of taking your swarms into a spare room, warming and feeding them up to get rid of disease, that we "little toads" don't always have the wherewith to furnish the empty rooms and stoves. What are we to do then? Will old last years' pollen in the combs do to feed young bees, in the Spring before new pollen comes on? You asked me some time ago, if my swarms were strong in the Spring. Yes, some were very strong, but there was no honey for them to get. Some people complain that honey makes them sick. Just take a bowl of sweet milk and drink it as you eat the honey, and my word for it, you will not be troubled by any bad effects. W. M. KELLOGG.

Janesville, Wis., Aug. 5th, 1873.

Fourth Annual Meeting.

Chautauqua Co. Bee-keepers' Association will hold its fourth annual meeting, September 17th, on the fair ground at Jamestown, N. Y., the second day of the county fair, at the Speakers' stand. A general invitation is given. The Agricultural Society have offered more and larger premiums than ever offered by them before, especially in the bee department. We anticipate a large show of bees, bee-hives, extractors, feeders and honey in various forms.

J. M. BEEBE, President.
C. E. Benton, Secretary.

[For the American Bee Journal.]

Iowa Beekeepers' Association.

The next meeting of the Central Iowa Beekeepers' Association will be held on the grounds of the State Agricultural Society, at Cedar Rapids, commencing on the second day of the

State Fair, (September 9.) A session will be held each day of the fair. All who can, that are interested in bee-keeping, should be in attendance to either learn or teach. It is expected that arrangements will be made for one or more lectures on bee-keeping, by noted bee-keepers, during the sessions.

A. B. MASON, *Sec'y.*

Waterloo, Iowa, Aug. 2, 1873.

[For the American Bee Journal.]

Michigan Bee-Keepers' Convention.

The annual convention of the Michigan Bee-Keepers' Association will be held, as usual, at the time and place of holding the Michigan State Fair, which takes place at Grand Rapids, September 15th to 20th. The sessions of the Convention will be as follows: Wednesday, 17th, 7:30 p. m.; Thursday, 18th, 9 a. m., and 7:30 p. m; Friday, 19th, 9 a. m.

Papers of interest, on leading topics, are expected from some of the ablest bee-keepers of the country, and every subject of interest, will be open for general discussion and remarks.

Prominent bee-keepers of Michigan and adjoining States are expected. Everything bids fair to have a capital time, and the most cordial invitation is extended to all interested in the promotion of bee-culture as a science, or who are or anticipate being engaged in bee-keeping for profit or pleasure. Come one, come all, bee-keepers, and let us have a good, social time, and mutually improve by an interchange of ideas and experiences. To those who cannot be present, and especially of our own State, we should be thankful for any statistics they may be able to furnish, such as the number of swarms wintered, the amount of increase, the amount of honey taken, either from boxes or by extractor, the kind of soil upon which located, the kind of timber for bee forage, etc. Such statistics are valuable, and bee-culture, if established as a science, must be established by statistics. All such communications should be addressed to J. W. PORTER, Sec'y.

Springlake, Mich.

Reports, Experiences, and Opinions.

J. E. Hetherington, Cherry Valley, N. Y., writes Aug. 6, 1873:

Bees are doing finely with us.

W. Lamprecht, Cardington, Ohio, writes Aug. 11, 1873:

Bees have done well this summer here, lots of new swarms but little honey.

J. S. Hill, Mount Healthy, Ohio, writes Aug. 13, 1873:

Our yield of honey this season is 6309 pounds. 1989 pounds box honey, and the balance machine extracted.

J. R. Bledsoe, Natchez, Miss., writes Aug. 7, 1873:

The past season here has been so rainy that bees have not been able to store much surplus honey, otherwise they have done well.

Dr. H. W. Sedgwick, Granville, Ohio, writes Aug. 8, 1873:

The AMERICAN BEE JOURNAL is the best, most practical and really the only simon pure *Bee Journal*, that is published. Wishing you much success.

G. W. Zimmerman, Napoleon, O., writes Aug. 18, 1873:

"Bees here are swarming at this date, and doing finely. I have trebled mine in numbers, and have now 70 colonies, all Italians—three barrels of honey and will extract one or two more this week."

J. L. Davis, Holt, Mich., writes Aug. 20, 1873:

"I have one hundred swarms of Italian bees, and will have about 1000 lbs. of surplus comb or box honey, and seven or eight hundred lbs. of extracted."

D. G. Hervey, Dunlap, Ill., writes August 8, 1873:

The season has been very dry here and very little honey gathered. In June M. M. Arter, Crestline, Ohio, recommended silver hull buckwheat for bees. Will some of the bee-keepers be so kind and favor us with a report of its honey producing qualities, yield per acre, quality of flour, etc.

J. P. Clements, Tunnel Hill, Ga., writes Aug. 13, 1873:

Bees have done poorly here this season, the spring was too wet and the summer too dry. Buckwheat is now blooming, but the bees do not work upon it.

Send the AMERICAN BEE JOURNAL along and I will always cheerfully foot the bill. I take three others and would not exchange the A. B. J. for all the others.

Dr. T. J. Kennedy, Castalian Springs, Tenn., writes Aug. 12, 1873:

Bees did well for about ten days in May, since that time there has been no honey gathered, if some of the fall plants do not furnish honey they will be bad off. I have sowed buckwheat and alsike; the alsike has done nothing yet; the buckwheat it is hoped will do something still later. I will send in a few days for the back numbers AMERICAN BEE JOURNAL. They are so superior to any other published that every bee keeper should have them.

R. A. Parker, Abingdon, Ill., writes Aug. 15, 1873.

"From 75 colonies, I had but eight left this Spring. I bought two Italian stocks from T. G.

McGaw, Monmouth, Ill., and have now increased them to 25 and have them about all Italianized

In this part of Bee-dom the season has been very unfavorable for bees, we have had but little rain and few flowers for bees to work on since July fourth. Long live the AMERICAN BEE JOURNAL, and may they who give it life prosper."

Thos. Pierce, Gansevoort, N. Y., writes Aug. 11, 1873:

Bees have wintered very poorly for the past three winters, especially the last winter, many losing all. I started with twenty good strong stocks, lost all but four. The season has been cool and very dry, and bees stored but little box honey. I have replenished my stock buying and have no reason to give up, as the dear little bees are always willing to work and they have been very prosperous in the past and trust they will again. So send on the AMERICAN BEE JOURNAL and let us read, study and practice and that will make perfect.

Greenhorn, middle Virginia, writes July 13, 1873:

Bees wintered well with us in almost all sorts of hives, without any sickness or bee houses. They started to work finely, both breeding and gathering pollen and honey in March and April, but in April and May received a severe check by the cold and long continued rainy weather, which continued so long as to produce much starvation. The latter part of May the weather became clear and warm; and then the bees set swarming to such an extent as to seriously injure the stocks, and so far to destroy all prospects of the honey crop in boxes. Honey season mostly over with us.

E. Brown, Point Bowan, Ont., writes July 23, 1873:

As I have seen no report in your valuable journal from this section of the country, I will write you a few lines and tell you how my bees have wintered. In 1871 I wintered forty stocks without losing any. In 1872 I commenced to winter sixty-four and lost two. In 1873 I commenced to winter seventy-nine and lost one. I sold three stocks this spring which left me seventy-five, and they have increased to one hundred and two. Other bee keepers are complaining on account of losing nearly all their bees last winter, which was a very severe winter. I have made twenty-four of Novice's Simplicity hives and like them well.

J. Jones, Philipsburgh, Pa., writes August 12, 1873:

Last winter was very severe on bees in this section of country, a great many died. I lost sixteen out of twenty-four, after the first of March, with plenty of honey in their hives, but the weather kept so cold through March and April that they could not get to their stores and therefore starved to death with plenty of honey in their hives.

The eight I had left were very weak, but they have done well. I have been trying to increase them by artificial swarming, and could raise plenty of Italian queens, but no Italian drones, there being no drone comb in the hives, therefore I am afraid the young stocks will turn out hybrids. But I have ordered six queens from E. M. Johnson, Mentor, Ohio, which I think will help me out of the difficulty, and at the end of the season will report my success.

Coggshall Bros., West Groton, N. Y., writes Aug. 9, 1873:

Bees have done well this season, what few there was left. We saved our bees by having a bee house. We had 140 swarms last fall, 78 in the bee house and the rest outside. We lost nearly all that were left out doors. There was hardly a black bee left alive here last winter. We have got over 4000 pounds of honey from our seventy swarms this spring. We had one swarm that gathered sixty pounds of basswood honey in six days, in two days it gathered twenty-two pounds, or eleven pounds per day. We have increased our bees to 155 swarms.

When we use two-story hives we find that the bees will build worker comb in an empty frame placed between two sheets of drone comb. We have two apiaries and shall build another bee house this fall. It will pay for wintering the bees in one winter. Our buckwheat honey season has just commenced, but basswood beats the world.

Samuel Luethi, from Gnadenhutten, Ohio, writes July 29, 1873:

Our story about bees is the same you get from other parts of the country; a hard winter, and many bees lost, and the few colonies that are left are not much disposed to swarm. In my own apiary I made artificial swarms and succeeded well by giving the new swarms a full set of frames with brood and honey in them, taken from other hives and replacing said frames with frames filled with empty combs and letting the new swarms raise their own queens.

On the 14th of this month I made an artificial swarm into which I intended to introduce an Italian queen the next day, but did not receive the queen until the swarm had some queen cells sealed. The cells were destroyed and the queen caged five days. On the fifth day the hive was set over a bottom board with a wire cloth ventilator in and a pan with rotton wood burning in it set under the ventilator, and the bees and queen smoked for about fifteen minutes, after that the queen was liberated and well received. But a neighboring colony soon discovered the helpless condition of the stupified bees and commenced robbing in great earnest, but the pan with the smoke in soon dispersed the robbers, but it had to be kept in front of the new swarm all day for the protection of the bees.

THE AMERICAN BEE JOURNAL.

Chicago, September, 1873.

Acknowledgements.

Subscribers will find the date at which their subscriptions expire on the printed slip attached to their copies of the JOURNAL. The date given with each subscriber's name, will show the time to which the subscription has been paid, and will constitute a receipt for moneys remitted.

WE regret to learn by private letter from Mr. COWAN, that his father-in-law, Rev. L. L. Langstroth, is still in very poor health. He has, we are sure, the deepest sympathy of his many friends.

Bees at the Vienna Exposition.

Our German brethern, it seems, were not discouraged by the refusal of the authorities of the Exposition at Vienna to permit living bees to be exhibited at the Exposition. They have, under the auspices of the Vienna Beekeepers' Union, resolved to have an Exposition of their own, in which to exhibit to the visitors the advance made in bee culture. The exhibition takes place at Simmering, in the suburbs of Vienna, and will extend from July 1 to September 15. We regret that the notice of this intention of our German apiaran's was not known here earlier, so that our American beekeepers could have availed themselves of this opportunity to show in Europe the progress we have made in this country in bee-culture.

The "He-bees."

We have seldom in all our life felt so much like indulging in "cursory remarks," as we did when we opened the August number of the A. B. J., and our eye fell on the unfortunate *erratum* which disfigures page 29. The worst of it was we didn't know who to blame. If we had only known who was responsible for that egregious blunder, we should have obtained some relief by coupling his name with some uncomplimentary adjectives and wholesome abjurgations. But we didn't know, and we don't know yet. Indeed we have concluded not to investigate the matter, but to dismiss it with a few general remarks and reflections after the following fashion:

Copy is often marred by strange, unaccountable blunders. Printers are thought to be fully "justified" if they "follow copy." Printers are a blundering race of mortals. A fatality seems to haunt them in respect to making mistakes. Proof readers sometimes blink the eye just as they come to some glaring blunder which it seems as if it were impossible not to see. Some errors are like some criminals. They have a wonderful faculty for escaping detection, and so a mistake will pass through half a dozen hands and remain uncorrected. Finally, accidents will happen, not only in the best regulated families, but in the best regulated printing offices.

After we had got over our first fit of vexation, we began to wonder whether it really was an error, after all. We saw that the article was a translation from the *Bienenzeitung*, and knowing how far the Germans are ahead of us in the science and art of bee keeping, didn't know but they had succeeded in producing a species of "he-bees" that would gather honey, or try to, but being inexperienced at the business, didn't know exactly the proper time to go out foraging. This "happy thought" soon had to be dropped, but it occurred to us to commend this point to our advanced and advancing friend Adair. He has more faith than any man we know in the possibility of changing bee nature. Now here is a "new idea" for him. Let him try his hand on the "he-bees," and train them to search for honey. It would end all our trouble about drone-comb, multiply our working force very greatly, and the apiarian world would pronounce blessings on the man who invented *drone-workers*.

Mr. Quinby's Plan of Sending Queens by Mail.

We have pleasure in testifying that Mr. Quinby's method of mailing queens, described by him in our last issue, is a complete success. The package promised by him duly arrived at the office of the A. B. J., in Chicago, August 7. It was remailed to Guelph, and came into our hands all right on Saturday evening, Aug. 9. Circumstances compelled our subjecting the little party of prisoners to a protracted confinement, as we were leaving home for an absence

of several days. There was an ample supply of loaf sugar left, but the sponge was quite dry. We remoistened the sponge, and hastily put the package on the top of a stock of bees, next the frames, intending to move the hive, and give the newly-arrived queen all its foragers, on our return home. It was the 14th inst. before we were able to liberate that queen, so that she was fully *nine days* in the close confinement of the package in which she was mailed with no other sustenance than the loaf sugar and water. When we let her out, she flew very briskly to the window of the room, and buzzed about in a most lively manner. She looked rather attenuated, but was otherwise, to all appearance, in excellent condition. We caught her, daubed her well with honey, and dropped her into the hive prepared for her, and at this present writing, can give no further account of her.

It is plain, however, that Mr. Quinby's plan is not only feasible, but highly to be commended, since, as he says, it removes the only real objection to sending bees by mail. Of course people don't like to have their letters all smeared over with honey. Even *billet-doux* are not improved by such additional sweetness. And we can readily imagine what a fuss particular gentlemen and fastidious ladies will make if their letters are besmeared and bedaubed. Mr. Quinby has demonstrated that this can be avoided, and if it can be, surely it ought to be, for it is the part of good citizenship to avoid giving needless annoyance to one's neighbors.

It is a very great accommodation and advantage to bee-keepers to be permitted to transmit queens through the mails. If handled with due care, nobody need be stung, and the bees will go in perfect safety. We cannot but think that the Postmaster General, on proper representations being made to him, will see the propriety of including bees among transmissable articles. If the proviso were made that they must be sent without honey, and directions given as to the due security of the package, there would be no cause for complaint, and even-handed justice would be meted out to all.

Mr. Quinby would, we think, render an important service to apiculture, if he would carry out his proposal, and send a package of bees by mail to headquarters, preceding it by a communication stating his intention to do so, and explaining the matter in full. If that prove insufficient, the matter should be taken up by Bee-Keepers' Associations, and by the North American Bee-Keepers' Society, and influence brought to bear with a view of securing to apiarians a postal privilege which is exactly similar to privileges extended to parties in other lines of business, and which there is really no valid reason for withholding or withdrawing.

A Curious and Painful Experience.

It is with a particularly reluctant and sheepish feeling that we proceed, under the influence of an imperative sense of duty, and with a view to the diffusion of useful knowledge, to tell our "sperance" in the matter of a bee-sting, lately inflicted upon us by one of those irascible and ill mannered insects, which some people, with misapplied fondness, are wont to call their "pets."

Now, gentle reader, let it be promised, that for some years past, we have regarded a bee sting as a mere bagatelle. We have been stung any number of times, in various places, and of late the effect has been so slightly inconvenient, that we quite set the honey gatherer's dagger at defiance. A sting in any fleshy part of the body was no worse than the prick of a pin, and even a sting in the face caused only transient pain and very little swelling.

But "a change came o'er the spirit of our dream" the other day, "thusly." We were inspecting a hive we had been fitting up for exhi bition purposes the day before, when suddenly, without any note of warning or opportunity to take precaution, a bee buried its sting exactly at the point of the upper lip, right on the little projecting tip of flesh from which the moustache marks its center, and divides to the right hand and the left. "Pretty well aimed," thought we. "Only an Italian could hit the mark like that." We proposed at first to finish our inspection of the hive, and pay no attention to the hurt, further than to pluck out the sting. But in a very few moments, our upper lip felt as if it was on fire, and the pain became very great. We went in doors to look for the blue bag or some washing soda. Found the soda, but it had no effect whatever. The lip swelled very quickly, and the poison extended upwards and downwards, very much after the manner of

little tidal wavelets. Soon our eyes felt fiery and protuberant, and our head was all aglow with fever. Mouth, throat and stomach successively yielded to the subtle virus, until we had to drink cold water to keep from fainting and vomiting. The pain too was excruciating. Before long, we broke out from head to foot in red blotches, and the surface of the skin looked like a case of scarlet fever at its worst stage. There was a strange tingling sensation in the ends of the fingers and toes, as if the virus coursed through the system and oozed out at the extremities. For about an hour our sufferings were intense. Then the pain, swelling and fever gradually subsided, but we were ill all day, and had to lie down about three hours, and might as well been on our back the whole time, for we were fit for nothing when up and around. After a good night's sleep, there was a general sense of weakness and soreness, and a very stiff upper lip. This last we felt the need of in order to persevere in bee-keeping, after the experience of the day before.

Now we want the opinion of older and longer headed apiarians than ourselves, in relation to the circumstance above narrated, and that they may be in position to give it understandingly, we have two or three additional statements to make.

1. We have not exaggerated the case in the least.

2. So far as we can judge, we were not only in good health, but if any thing rather better than usual.

3. It was a delightfully clear and pleasant summer morning.

Is it a mistake to suppose that a bee-sting is 'nothing when you are used to it"? Are there times when the poison of the bee is dangerously virulent? Must bee-keepers pursue their vocation with the knowledge that they are at any time liable to an experience like the foregoing? How many such stings would it take to kill a man? Are there parts of the human body where a bee-sting is in danger of proving fatal?

Our continuance in the bee business depends to some extent on the answers to these questions. Meantime, we shall wear a veil when we visit our apiary, "you bet."

HIVES are to be made of any size between a bushel and a half bushel, saith Mr. BUTLER.

Bee Houses.

BY THE EDITOR.

Among the most unsightly objects that afflict the eye as one travels here and there throughout the country, are the structures put up to shelter bee-hives from sun and storm. They are generally mere sheds of the most rickety and tumble-down description. Put up in a hurry—not intended to remain long—soon getting out of shape and out of repair, they are as we have said, among the worst of eye-sores. Generally speaking, too, they are very unhandy. Often to save trouble and boards they are put up in the form of a lean-to against one side of the dwelling-house. They are built low, just sufficing to cover the hives. There is no getting behind the hives for the purpose of examination or management; and so everything must be done in front, just in the thick of the thoroughfare where the bees are passing and re-passing on their trips for honey and pollen. There is no getting under the roof to do anything, and so whatever is done must be got along with in a fumbling, awkward sort of way, where the hives stand, or they must be removed to a distance for more convenient handling. Bee-keepers who have these low-roofed, inconvenient, unsightly looking bee-houses, are generally of the class who leave the bees very much to their own devices. They hive the bees, put on honey-boxes in white clover time, take the boxes off in the fall, and perhaps pack some straw around the hives when winter comes on. These are about all the operations in practical apiculture with which they trouble themselves. Artificial swarming, regulating stocks, rearing queens, extracting honey, feeding for increase, and many other useful manipulations, known to intelligent and skillful bee-keepers, are wholly out of their line. As they have no occasion to meddle much with their bee-hives, it does not matter a great deal if they are awkwardly placed and inconveniently situated.

Now and then we find some enthusiastic amateur bee-keeper, who has a nice home in the suburbs of a town or city, going to the very opposite extreme and building a very tasteful and elaborate affair—a sort of palatial mansion for the honey gatherers. The English bee-books contain many pretty and even elegant designs for bee-houses, and some of the best among them have been reproduced west of the Atlantic.

Many who "have a notion of bee-keeping," as the common phrase is, imagine that a bee-house is the first thing to be thought of; and we have occasionally met with people quite resolved to try bee-keeping but they have no place for their hives to stand, and they cannot spare time to build one. We are often asked by those who think of embarking in apiculture, "What is the best style of bee-house to put up?"

Now the want of a bee-house need not deter any one from bee-keeping, and the best advice for such as propose building one, is that given by Douglas Jerrold about getting married: "*Don't.*"

"*Don't*" build a bee-house for the following reasons:—

1. They harbor toads, mice, moths, and other insects.

2. They huddle the hives together so closely that various evils ensue. Young queens on returning from their "bridal tour" are apt to go into the wrong hive, and get killed. In case of a stock becoming excited from any cause, the adjacent hives are pretty sure to become excited also, until the entire apiary becomes infuriated and unmanageable. Robbing is more likely to take place when bees are crowded together. Just as families that live in close proximity to one another, naturally get to know each other's affairs more intimately than they would if at a greater distance apart, so when hives are put close together weakness is discovered, and advantage taken of it. Moreover, bees, like human beings, are less apt to quarrel if they live some little distance apart.

3. There is a more excellent way. A properly made bee-hive is a little house in itself, and is impervious to rain and storm. All that is needed is a partial shade to temper the too violent rays of the sun in the middle of the hot summer day. This can usually be got among the fruit trees of an orchard, or the shade trees of a lawn or shrubbery. One of the best bee-keepers we know practices and recommends the planting of a grape vine beside every bee-hive. This will furnish all the shade required. Care must be taken that the shading be not too dense. A position so chosen that the morning and evening sun will fall full on the hive, while the noon-day blaze is intercepted, exactly meets the case. In such a position the bees will begin work with the first gleam of sunshine, and continue it until the latest beam of the evening. While there will be no cessation of labor because of excessive noontide heat. Set well and widely apart. Each hive is a separate and independent community. With partial shade and a good exposure, the bees will do much better than when made tenants of a bee-house.

We have a bee-house. It was built in the days of our youth and inexperience as a bee-keeper. A pretty site was chosen for it, and it was made rather ornamental, with a nice little cupola on the top, and venetian blinds at the sides for ventilation. It held two tiers of hives, each having an alighting-board and entrance-archway in front of it. We made a fair trial of it, and found it worse than useless. There are no colonies in it now. It has long since ceased to resound with the hum of "the little busy bee." But we find it very useful. It is a most convenient place for storing empty hives, honey boxes, spare frames, the extractor, and all the appurtenances of bee-keeping. Besides accommodating these, it affords room for the garden tools, and the lawn mower. Among other uses it provokes enquiry among visitors. As they note the hives here and there among the trees, and observe that there are none in the bee-house, they very naturally ask for the why and wherefore. Whereupon we discourse to them very much as we have now done to the readers of the *Canada Farmer* in the foregoing article. —*From the Canada Farmer of July* 5, 1873.

Geo. S. Wagner.

Since the post-office department persist in their refusal to permit queens to be sent through the mails, I would suggest to bee-keepers a way of getting around the P. M. G's objections. Send a small piece of comb containing eggs. First, fill the cells containing the eggs with honey, and then pack the comb in a small box securely, just as the comb was placed in for the queen. My father often spoke to me as to the feasibility of transmitting eggs in this manner, and desired to test the experiment, but never did. He thought that the honey would preserve the eggs from spoiling, and would readily be removed by the bees when placed in the hive. It may be that honey would not be needed ; actual experiment, however, can alone test that.

Certainly the post-office officials cannot say that they are in danger of being stung by bees *in posse*. And pray, who ever heard of a post-office official being stung by bees *confined* in a queen cage? He would certainly be a curiosity, and should be stored away on the same shelf with those anti-deluvian relicts, the town council of Wenham.

Honey Markets.

CHICAGO.

Choice white comb honey, 25@28c; fair to good, 22@25c.

Extracted, choice white, 12@14c. Fair to good, 10@12c.

Strained, 6@8c.

CALIFORNIA.

Quotations from Stearns & Smith, 423 Front St., bet. Washington and Clay, San Francisco, Cal.

Strained, choice orange blossom honey, from Los Angelos, in 5-gal. cans, 1o@16c.

Valley honey, gathered from manna or honey dew, 12@14c.

AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY W. F. CLARKE, CHICAGO, ILL.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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[For the American Bee Journal.]

Novice.

MR. EDITOR:—Please try and explain to our friend Alley, that we have no malicious purpose in our project of supplying bee-keepers with cheap hives, and that we would take Mr. Alley by the hand with all the pleasure in the world and thank him for the service he had done the bee-keeping community, should he be able to furnish the same articles at less rate than we do.

When ever it shall profit the masses to have us stand aside for some who by means of better facilities, or having more energy and tact to produce good work cheaply, we shall accept our position at once and without the least bit of ill feeling or rivalry.

An opening now presents itself for some good mechanic who is also a bee-keeper (for it seems to us that none but a practical apiarist should attempt hive making,) to make a good servicable one story hive, frames included, for $1.00, having them so made, of course that two such constituted a two story hive etc. We have thought of offering such ourselves, and did not other duties stand in the way, we have no fear that we could not do a pleasant trade, both for ourselves and our customers.

Who among our readers will undertake it? We are ready to aid them in the matter in any way we can.

Individual losses are often times necessary for the public good, and he that is manly, will not hesitate to bear his share when it becomes necessary.

Two years ago we purchased and sold quite a number of the Peabody Extractors, thinking them simple, stronger, and more convenient than our home made ones, but when we brought one into actual use, for real work, they proved too laborious to be tolerable, and notwithstanding we had nearly a hundred dollars invested in them, we have never sold one since, although they have been offered at half price.

Since using the Simplicity hive for queen rearing, etc., we have found work facilitated so much that we have offered our original Langstroth, two story hives (that cost us $2.00; three years ago,) for 50c each, yet they don't sell.

If it wasn't for the danger of spoiling our "nice bugy saw," we would take them apart and make them over, for they contain lots of lumber, and we have wasted a good deal of paint on them, especially the covers to make them tight. The American hives piled up against the fence, we have offered to box hive bee-keepers, at *half the former price each year;*—guess they must be down to 12½c now, but can't remember, for box hives havn't swarmed scarcely for the two past seasons here.

Once more we wish all to consider the following remarks on hives, as applying to the *hives* only and not the individual whose names they bear, for we wish to discuss hives as we would turnips, or any other natural production, and consider *their* merits only. We have been visiting neighboring bee-keepers, in their apiaries of late, and by the way when we get several of them together we have quite a pleasant "home convention," and we don't fear to discuss hives, either as they do in the *N. Y. Journal.*

We almost all use different hives, different feeders, etc., etc., yet we have never quarreled a particle. Mr. Shaw of Chatham Centre, prefers the Langstroth Portico, because he has a feeder fixed in a neat square box in the upper part of it; the roof of the portico is the lid which he raises to replenish it and the feeder is simply a tin box filled with shavings; bees are admitted through a hole near its top; thus you see he can feed at any time, without opening the hive at all, a very convenient device for queen rearers.

Mr. Shaw has the numbers of his hives painted on squares of tin stuffed in between the heads of two tacks not driven quite down, and when a queen is removed to another hive the number is carried with her, and when hives are exchanged, the numbers are readily corrected. All or nearly all of them agree that closed top frames are out of the question, and many of them have given the American hive a good trial as they had purchased "rights," and did not want to have it "wasted." At one place we had a "big laugh" at a hive of Italians

containing but one frame, and that frame was only 2¼ *by* 3 *inches* in dimensions; notwithstanding they had a queen and gathered pollen with as much bustle and importance as some greater colonies. As these queens would fill their hives with eggs in 15 or 20 (or more) minutes, they proposed watching them closely when they become fertile. Such a hive, bees and all might be carried comfortably, one in each pocket, and one would expect that they were the work of a boy, but on the contrary our bee-keeping friend told us they were some of his *father's* experiments If these "wee" hives could only be so managed that the bees would not swarm out, what a fine thing they would be to rear dollar queens in. Cannot some of our friends tell us how? Brood, won't for we tried hives with frames 3 by 4 until we were tired of them some years ago.

Closed top frames are bad because so much time is occupied in closing them without killing bees, and because all combs cannot be secured near enough of a thickness to permit any comb to go any where, closed end frames are still worse because one cannot keep his eye (and smoke) on both ends at once.

A brother novice remarked but yesterday that he had purchased one of Quinby's hives, and had had four more made like it, that although the last four had cost him only about one half the first one, he after one season's trial of it, much regretted that he ever purchased one.

Notwithstanding a stock of Italian bees were purchased of Mr. Quinby, in the hive prepared with all worker combs (except a few inches of drone comb,)and the boxes were also provided with guide comb, the colony like our own, had not given him a pound of honey. Now our friend certainly possesses some skill as an apiarist. for he had secured over 100 lbs. comb honey this season, built in frames in the upper story of a Langstroth hive, and this right beside the Quinby hive.

Again he finds the manner of supporting the combs with the pieces of hoop iron a most unfortunate arrangement for rapid work, but when this is got over, and the frames are all closed up at both ends it seems almost impossible to get the bees out from between the ends of the frames and the ends of the hive, smoking and brushing it is true get them some where, but we finally heartily joined with him in wishing that we could see the author of said hive, open and close it when filled with a rousing colony of hybrids. Lumber cannot be closed together, until the bees are out of the way, whereas the cloth quilts can be closed down over cross hybrids no matter how thick they cover the top of the frames and not a bee is injured, and when a hive is closed, *we* have closed top frames *too.*

On page 254 of May number we read "time is money" and our amazement is increased by the remark in another place that smoke must be used with suspended frames, or where the sides are not movable but that it can be dispensed with in working the *Quinby hive.* As a Quinby hive costs considerable money, it is well to know all its peculiarities before hand, and if there are those who have had a more favorable experience with it we will listen to them with great pleasure. Adair section hives with the top, bottom, and sides closed it seems might be put together before bees are put into it, and then could be pried open, but when it comes to closing them, we should think about *four* "Philadelphia Lawyers" would be required and each one would need a smoking pan of rotten wood, and a sprig of asparagus. By the way Mr. Editor we are hugely pleased with a very light enameled sauce pan (cost 40c, we havn't got any *for sale* yet) that we burn short pieces of dry rotten wood in, hard wood is best. The handle never gets hot and it don't allow fire to drop on our quilts, and when we wish a big smudge in a jiffy "we sprinkle on a little saw dust.

We keep it in a tin box to have it safe and out of the rain, this box is large enough to allow us to remove our fuel from the pan and spread it sufficiently to have it go out. When these charred pieces are gathered up and put into the pan again with a live coal we are ready for work.

With our full blood Italians we seldom need smoke even when they are building queen cells, but we have some hybrids that are such excellent honey gatherers that we can't bear to dismiss them from this pleasant world, but we are trying hard not to raise any more so near black.

Mr. Kellogg speaks of the expense of stoves and so we might as well confess that the one we mentioned was purchased out of a pile of old iron for $2.50 to be used in an experimental "Chickenary." After the poultry fever abated, Mrs. N. remarked that if she had it up in her room she could clean it up so that 'twould do very well to soften the intense cold of last winter, for fear the blue eyed baby might judge this world of ours a colder one than it really is; but when the bees began to die "blue eyes" had to take their chances.

After all friend Kellogg, the bees we fussed with nearly all died eventually, and our advice would be now to have your colonies all so strong they wont need warming; take away their stores and fill them up well with sugar syrup as soon as you receive this, if you haven't done it before, for it should be sealed up well in the combs, and we think you will find them to winter safely almost anywhere, only they will consume much less in a good cellar or bee-house.

By the way Mr. Editor the (bee-keeping) world is getting converted to our "sugar creed" finely. Mr. King says *now* that stores entirely of sugar are *not unsafe.* Mrs. Tupper says

they are *safer* and Quinby says they will do as well, and 'tis cheaper, and we don't remember of any now but Gallup and Hosmer that hang back, and they say 'tis "old b——" there we promised not to say a word till Gallup got through, and if we have wronged him in any way we beg his pardon. If he and Mr. H. do winter their bees on syrup, they will probably do it because 'tis cheaper, for at the present price of sugar and honey about 4c per lb. can be saved over all expense by using the latter.

Yes, we are afraid of theories and we are afraid of Scientists (not "Scientific" for we know he is "true blue," and we have been several times tempted to think that Adair and a few others knew as little from actual experience of the contents of a bee hive as did our venerable friend Agassis, who laid it down so plain and loftily to us common folks; for he certainly never saw inside a hive himself, nor could he have had a relative or acquaint nce that had, for they would have told him quickly what a—— a—— he was making of himself before a people who held daily and intelligent converse with the whole interior of bee-hives.

Adair sometime ago gave us a long paper intended to demonstrate that bees could live without fresh air, whereas he and his opponents could have saved time by putting some bees in a self sealing fruit jar, and screwing them up tight; then he gave us the Mellipult and showed by scientific drawings that it must be superior to all others. We have wondered if he did not forget to *try it* entirely, or was it the first trial that set him so against extractors. Again he gave us an elaborate paper with figures equal to Hazens, showing the advantage of his discoveries on artificial comb made on wire cloth, with sugar and wax; and we hereby thank you Mr. Editor for your friendly check on our enthusiasm when we introduced the paper to the Cleveland convention. Well *our bees* will build just as much comb when fed on the same sugar without the wax, and our careful experiments with it resulted just about as they did with artificial Fertilization. The theory in Progressive Bee Culture, we at first sight were much taken up with but careful observation and experiment showed it (as it seemed to us, such a mass of folly and humbug that when it cropped out in recommending a patent for a bee-hive we were utterly disgusted. The fact that some periodicals of the "Agassis type" laud Adair's papers as being "true science," only augment the feeling we sometimes have that the whole "Popular Science" world is a humbug, and we have before us now a letter from Prof. E. L. Youmans, admitting that an article in the "*Popular Science Monthly*" of which he is the Editor, was a wretched piece of ignorance and quackery;" yet in the half dozen numbers that have been issued since that one, not a word has been said to caution the public, and enable them to sift truth from error, as the article was inserted carelessly.

All we ask is that Agassis honestly acknowledge his error and that the *Science Monthly* notifies its readers (whether it *pays* or not 'tis *our* due,) that *Electricity* and *Life* was the false teaching of a skillfull quack to sell his humbugery.

We were inclined to class Gallup among the theorists, and to instance his, "Natural Queens, versus forced or artificial ones," as one evidence thereof, yet a careful perusal of the back numbers of this and the other Journals (they were of some value when he wrote for them) would make us hesitate somewhat, for he has given us so much of value, and from his own practical experience, that we really owe him a vote of thanks; he has most truly been the friend of the beginner and the *novice* too.

If he did at times makes positive assertions that things were different in his bee hives from what we found them in ours, we should bear in mind that others have erred in the same way.

In regard to the New Idea theory claimed by himself and Adair, we at the time decided that it was their intention to baffle novices with a heap of unintelligible rigmarole and then to persuade us that it contained "great truths."

If we are alone obtuse we beg their pardon, but should very much like to hear from some who see the *new idea* clearly, and can convey it as clearly to others.

Magua est veritas, et prevalabit.

NOVICE.

P. S. Will Cyula Linswik please excuse the liberty we take in thanking her for her very vivid and lifelike narration of her experience and permit us to suggest that the proper use of the extractor would have obviated all her troubles. Thanks to Greenhorn also, we fear we don't deserve his able defense.

[For the American Bee Journal.]

Remedy for Bee-Stings.

EDITOR OF JOURNAL.—Noticing your account of a "bee-sting" having such a bad effect upon you, I herewith send you my remedy, which I have used for years, and which you can publish for the benefit of the "bee community" if, *upon trial*, you find it of any value: Get a small, heavy glass phial, with a *ground glass* stopper; have it filled with "Tinc. of Iodine." To use: shake well, then remove stopper, applying what adheres to it to the wound, being careful not to drop any on clothing, as it leaves a bad stain. Half-ounce phial is large enough. J. E. MOORE.

Rochester, Pa., Sept. 12, 1873.

[For the American Bee Journal.]

Information Wanted.

Mr. Editor.—With much pleasure we have read the September number of your journal. It contains much to interest the novice in bee-culture. We are pleased to see some Southern correspondence, and would be pleased to see more in future numbers.

We have a fine country for bees, yet the subject has been greatly neglected. We are advancing slowly. When we read of such enormous yields of honey taken from a single swarm, and even from an ordinary sized apiary, we are disposed to conclude that we are nowhere in bee-culture; or, to say the least of it, we are so far behind the times we fear we shall never catch up. It is no unfrequent thing to find doubting Thomases here, and we must confess that our own faith is sometimes shaken when we hear of hundreds of pounds taken from a single hive. Nevertheless, we have to take it for granted that some of it at least must be true. We see reports of large yields from the North as well as from the South. The amount named in some of these reports is so great that we feel a great anxiety to further acquaint ourselves with some of the facts, thinking perhaps we may be in the dark as to the true system of bee-culture, or it may be in the hives in which the bees are kept. From Louisiana, Mr. Hereford gives a big report of last year. As Mr. H. is a practical man, and an experienced bee-keeper, no one can doubt his assertion.

Again, we read in the September and November numbers of the *North American Bee Journal* of a Miss Emma L., of Gainsville, Ala. Her report set us all a fire on the bee question. Only think of it, that a little orphan girl doing all the work herself, with only one year's experience, should take about forty swarms of bees and increase them to one hundred and three, and take nearly seven thousand pounds of comb honey. Wonderful! But we are assured the figures are correct and there is no exaggeration. Only think of it, a little orphan girl taking in comb honey over six thousand pounds, and no exaggeration in the figures.

Now, Mr. Editor, we are, as honest men, desiring to obtain light, knowledge and facts, pertaining to the culture of the honey bee, and we want nothing but facts, and do not want to be led astray. We are seeking knowledge in bee-culture, upon the most simple and useful plan.

The article alluded to was addressed to one of your correspondents, Mr. Will R. King, of Franklin, Ky. It appears Miss Emma L. obtained her hives from him, and it is barely possible the hive may have had something to do in obtaining this vast amount of honey. If so, we, as bee-keepers, would like to know it; for if true it will immortalize the young lady, and give a reputation to Mr. King's hives that will insure him a fortune.

We confess we feel overdosed, but hope the whole statement is correct, and that evidence of such a character, as will relieve our incredulity, will be promptly laid before us. When Mr. Moon was in our city we interrogated him on the subject. He failed to give us any information about it, further than Mr. King sent the articles to him for publication, and they were in Mr. King's own handwriting.

It is very evident some person is familiar with the whole thing. From the lights before us we must attribute Miss Emma's success to information as to the management of her bees derived from Mr. King, and to the peculiar adaptability of his hive in procuring immense yields of honey. If we are correct in our conclusions, and the poor orphan girl did accomplish what she states she did, the world should know it. On the other hand, if it is a bogus job, gotten up for other purposes, the world *should* and *will* know it. We have been informed by persons living at Gainsville that no such person as Miss Emma L. does now—nor ever did—reside there. But it is possible our informants may be mistaken, and that Miss Emma did at some time reside at that place. We respectfully ask Mr. King to give us the light and information we desire, through the next number of the American Bee Journal, thereby satisfying a doubting people.

F. Pence.

Rome, Ga., Sept. 21, 1873.

[For the American Bee Journal.]

Answer to Charles E. Widener, in August Number.

You must certainly be a "novice" in bee-culture not to detect the trouble; your bees destroyed the comb, because some one else had gone before them, doing the same work, namely: the wax-moth, and in cutting its way in the foundation of the comb, and weaving its silken shroud, it imprisoned the young bees.

A Request.—Will some of those bee-keepers who received rape seed from us be so kind and favor us—as well as bee-keepers in general—with a report of its growth, yield per acre, and its honey-producing qualities. Ours, at this date, is in full bloom, and three times more bees working on it than on buckwheat, which is also in blossom. J. D. Kruschke.

P. S.—We propose building a straw bee-house, viz: build a frame as for a stable, and then pack straw around it sufficient to keep out the cold, with a ventilator through the top. Has any one tried it, and will they please give the result of their experience in the matter.

J. D. K.

I have many hives containing five pecks which swarm yearly, and last (by succession) longer than those that are hived in smaller hives. Purchas.

[Translated from Die Biene.]

Surrogate.

To avoid further questioning and answering I give herewith the method of preparing a bee-food which, as a honey-surrogate, leaves little further to be desired, and which has for many years done me most excellent service. I purchase the honey in vessels containing about one hundred pounds of inferior quality, called food-honey; that is, honey and comb crushed together and sold at a low price; this pound, however, can be costlier to me than if I had purchased the finest honey out of Rhenish-Hesse. The sediments of this hodge-podge makes up two thirds of the entire weight. Honey of the secondary quality, drained from the combs but mixed with bee-bread, is too dear to be purchased for bee-food, especially when a far better article can be procured at a much cheaper price. For some years back, I annually procure of this substitute not under one hundred pounds with which to winter my ten or twelve stocks, to which number I shrink my apiary every fall since I have removed to Auerback.

Uniting sugar and water in the proportion of nine pounds of the former to five pounds of the latter, they are heated to the boiling point. After boiling a few minutes, skim off the foam and impurities, remove it from the fire and allow it to cool, and you will have—when you have used loaf-sugar or candy—without further trouble, a syrup which will retain its individuality a year and a day, and be in no danger of crystallizing. I have heretofore used the loaf-sugar, because it was one-fifth cheaper than pure candy; yet candy is, without doubt, just as useful, I having received many communications testifying to the fact, that after being dissolved and boiled in water it will not crystallize in the cells, but be kept pure in them until spring. Perhaps candy owes its excellence to its honey-like taste.

Winter food, costing by the pound thirteen kreuzers, is already much cheaper than honey would be; it can, however, be prepared in a still cheaper manner, by substituting for one-half of the candy, potato-sugar. I formerly used only one-third candy and two-thirds potato-sugar, but this latter is very apt to crystallize, and as an increase of the candy tends to diminish this tendency to crystallize, I now use half-and-half. We then have—

4½ lbs. candy@20 kr. - -	1fl.	30kr.
4½ lbs. potato-sugar@10kr. - -		45kr.
5 lbs. water - - - -		
14 lbs food for - - - -	2fl.	15kr.
or one pound for - - -		9¾kr.

Did not sulphuric acid play too great a part in making potato-sugar, there would be no trouble in the union of these two species of sugar; but there is almost always a surplus of the acid remaining in this sugar, and in order to have a harmless food this sulphuric acid must be removed. So much progress has already been made in the manufacture of this species of sugar, that but the one-thousandth part of the sulphuric acid now remains; but as one is never safe in trusting the absence of this acid, it is always best to do all that one can to free the sugar. This is done with unslacked lime, which is slacked and lime-water prepared therefrom A few teaspoonsful of this lime-water poured into the solution of the sugar and water, will unite with any free sulphuric acid the solution may contain, forming sulphate of lime, which sinks to the bottom of the vessel. When the dissolved sugar is on the stove, about to boil, dip into it a piece of blue litmus paper, and if any acid is present the paper will turn red; pour in two teaspoonsful of the lime-water, scattering it as much as possible over the solution, and after the lapse of about one minute try the litmus paper again, and if you find it again becoming red, pour in another teaspoonful of lime-water and try the litmus paper again. Should it still show signs of acid, put in another half teaspoonful of lime-water, and so on until you remove all traces of the acid. After this the impurities rising to the surface should be skimmed off and the vessel removed from the fire, and allowed to rest for 24 or 48 hours, and then be carefully drained off into another vessel, taking care that the sediment is not disturbed. Is it desirable to improve the syrup by adding some loaf-sugar, it should be added in proportion of nine pounds of sugar to five pounds of water, and the whole allowed to come to a boil and boil for a short time.

The syrup thus prepared will have a disposition to crystallize, especially if it be well secured from the air. If it is desired that the bees should winter on this preparation, it should be given to them early in the season so that they could store it in their cells and seal it up. In covered cells it has never become solid for me, but often in unsealed cells it has become crystallized in irregular masses. The more candy or loaf-sugar there is in the food the less the danger of crystallizing. The high price of honey, and even of sugar, especially the more refined grades, compels us to abandon the use of honey either wholly or in part as a winter food, and seek some such substitute as I have mentioned. * * * * As the bees have done badly in 1872, in many localities, many bee-keepers may be glad to come into the possession of the mode of preparing so useful a syrup, and will find it better for feeding purposes than highly priced honey.

E. Klipsteen.

Auerbach, January 9, 1873.

[For the American Bee Journal.]

"Progressive Bee-Culture."—Answer to Mr. Dadant's Criticism.

In the August number of the A. B. Journal is an article by my old friend, C. Dadant, which purports to be "a criticism" on Progressive Bee-Culture, but is not, from the fact that every quotation and statement he makes from the book and dissents from, is misconstrued or misunderstood by him. I do not charge him with intentional perversion, for it may result from my awkwardness and incapacity to express my meaning. I propose, in as brief a manner as possible, to correct him.

1. He pretends to quote what I say regarding the instinct of the bees as contradistinguished from reason, and makes me say "that they act according to the laws which govern matter," etc. There is no such statement on page 2, nor in the book. This is the old tale of the man who vomited living crows, which, when investigated, turned out to be that he only threw up something as black as a crow. What I say on the subject occupies nearly a page in the book, and is too long to quote here; but the only part of it that could convey such an impression is where it is said that the actions of the bees "are all reducible to certain rules, that are as unvarying as the laws governing the mathematical sciences;" in other words, I took the position that the labors of the bees were the result of instinct, not reason. I did not attempt to draw nice distinctions between reason and instinct, nor to define instinct, for our most learned naturalists do not agree where the line is to be drawn between the two, but it is conceded by all of them that when an action is performed, either by man or lower animals, which is to accomplish a certain end, and does so, under circumstances that show that it was done intuitively, and without former experience, and without knowing for what purpose the action was performed, and as often afterwards as it is necessary to the same end, it is repeated in the same way, it is said to be instinctive.

Instinct does not deny to animals mental powers, or even memory, such as Mr. D. instances, (the queen returning to the spot from which she was released, for she will do that as often as repeated), for the instinct that enables the bee to return to her point of departure, or her home, without anything to guide her so far as we can see, is remarkable, and surpasses man's powers or that of reason.

I was surprised that Mr. D. should contend that bees could be educated, and admit that I am too dull to see that he has proven it in the instances he brings forward, although he modestly confines the education of his bees to robbery and stinging. If he has read my articles in late numbers of the A. B. Journal, he will see that I contend that, instincts as well as corporeal structures can be modified, and that the conditions of climate and other surroundings do modify and change them, but this is quite a different thing from education; that is, taking a bee, or even a colony of bees, and learning them anything. A continual effort to excite anger in a colony of bees might make them cross, and if you expose sweets to them they will try to appropriate them, for self-preservation strongly endows them with instincts to defend themselves and to gather means of subsistence.

2. "*Eggs.*—According to Mr. Adair the eggs of bees do not *differ substantially from the seeds of the poppy or the tomato.*"

Mr. Dadant not only attributes this language to me, but he puts it in *italics*. Did I say so? This is another flock of black crows. In speaking of the queen I say: "she has certain organs called ovaries, in which eggs are produced *in a manner not substantially different from the* seeds in the capsules of the poppy, or in the fruit of the tomato," etc, but I proceed to point out how they are fecundated. Now this is quite a difference. He says, I said they did not differ from the seeds, when in reality I said they were *produced in a manner not substantially different;* and the context shows that I stated no such absurdity as he says I did.

3. He quotes: "In a normal colony such eggs always produced worker bees, and, although from the same eggs, queens may be produced, it is only when there is some disarrangement in the proper balance of the hive, and consequently is abnormal."

"Drones are an abnorm-*al*-ity."

The difficulty with Mr. Dadant in his comments in this quotation is, that he is talking about a very different thing from what Progressive Bee-Culture is. He construes it into my saying, that the production of queens and drones "*is an irregular act.*" If he will read it over he will see that I did not say so. I was speaking of the constitution of the colony, and not of the act of the production of drones. Drones are normally productive when there is a necessity for them, and the mating of the sexes is not an irregularity. But in describing a a perfectly balanced colony of bees, I say that in such there is no necessity for any other members than a queen and workers, and, notwithstanding Mr. Dadant's opinion, I speak advisedly when I say, "That so long as the balance is perfect, no drone comb will be constructed by the bees, nor will any queen-cells be constructed."

I had, the present season, a hive that held sixty frames. The bees were supplied with abundant room, in empty comb and empty frames, with a very prolific queen and not a drone-cell was built, nor a drone produced, although there was drone-comb placed in the hive and inside of the brood-nest. The queen produced bees enough to occupy fifty of the

frames, which were 10x13 inches, inside measurement, and, as each frame occupied 1½ inches, the bees filled nearly 10,000 cubic inches.

There may be a difference in an abnorm-*al*-ity and an abnormity, but as I did not use the former word, and cannot find it in Webster, I suppose it is a mistake of the printer. Webster tells us that "the word normal has now a more specific sense, arising out of its use in science. A thing is normal, or in its normal state, when strictly conformed to those principles of its constitution, which make it what it is. It is abnormal when it departs from those principles." Now, I take the position that a perfectly balanced normal colony of bees remains so until something happens, or there are conditions produced that destroy the balance, and consequently threaten its destruction. The colony is then in an abnormal condition, so far as its perfect working is concerned; and certain effects are produced which *are the normal results* of the derangement. Those conditions and their effects are attempted to be explained in Progressive Bee-Culture; but, it would seem, with poor success, when nearly every statement I make is understood to mean almost the very opposite of what I intended.

The strongest instincts of all animals are those through which they continue their species, and are most strongly developed when extinction is threatened. Some authors even go so far as to say that life is always, and only produced at the expense of life.

Mr. Dadant says: "I cannot conceive how the production of queens and drones is an abnormality or an irregular act. All beings that belong to the animal kingdom are perpetuated by the mating of both sexes."

Does he mean by this to deny the organic origin of the drone? or does he mean to be understood that the production is not irregular in nature, and therefore it is a rule that all male animals are produced without the intervention of the male, as drones are? Would he call the production of drones, from worker eggs, abnormal? When queens lay drone eggs, "from disease or old age," is their production normal? Is an infertile queen in a normal state? Are not all those conditions irregular, and do they not always cause the bees to make an effort to produce queens, and when they have no female eggs do they not often so far err in their instincts as to attempt to produce queens from male eggs?

Mr. Dadant quotes under the head of "General causes of the production of drones," from my little book, but so garbles it as to destroy the sense, and then gives certain facts, which he says "destroys the whole of Mr. Adair's arduous theories." First, he says a queen will not lay drone eggs when there is no drone comb, except in case of "disease or old age." How does he know? He says he uses a hive that has eleven frames in it, and that he only fills eight or nine frames and puts in two division boards, one on each side, leaving two spaces for the young bees to lay around in till they get old enough to go to work. If that is the kind of hive he uses, I deny his right to pass an opinion on the New Idea, for he has no means of knowing whether it is true or false. He furnishes this with worker comb, and as he don't find drones produced in it, except when his queens get old or sick, therefore they don't lay drone eggs. Does he know that she does not lay them, or do the bees refuse to nurse them and destroy them? His second fact is, that when he puts in drone comb, even as early as March, the queens lay in them. I should think they would, for such a hive is never in a normal balanced condition when it has a prolific queen in it; and, instead of disproving my theory, is a strong proof of its correctness, for the very theory he is denying insists that such a result would follow.

He says: "We see, daily, colonies composed of queen and workers, and therefore *well balanced* and normal, raising drones and young queens, and swarming."

And again, "By what Mr. Adair says, it would appear that as long as a hive has no drones it is *well balanced*, and will raise neither drone nor queen cells. Therefore, a hive that never had drones could never have any, and could never swarm."

I hardly know what to say in answer to these two paragraphs. I do not like to say harsh things, and will not therefore accuse my old friend of willful perversion. It must be that my incapacity to express myself clearly, has again misled him. After occupying ten or twelve closely printed pages in trying to tell what I considered a perfectly balanced normal colony of bees, I thought I had given a slight glimmering of what I intended to say; but find that I have conveyed a meaning entirely at variance therewith. I said nothing of the sort. I said anything else than "that as long as a hive has no drones it is *well balanced*." I stated so many conditions as necessary to a well balanced hive that I cannot repeat them here, but at the risk of being tedious I will make a quotation:

"With our present knowledge of the habits and the instincts of the bee, we admit that such perfection is seldom reached in the management of bees, but we are sanguine in the belief that it can be attained. To do so will require that we should be thoroughly, intimately, and correctly informed of the natural laws governing all the operations of the hive and of the offices performed by all its inmates. We have spoken of workers collectively, as if they were all alike in capacity, when the fact is that they are naturally divided into classes, each class adapted to certain work, which the others are as incapable of performing as if they were different insects; and when we speak of a *per-*

fectly balanced colony, we mean one in which there is the proper proportion of each class to do all the work necessary in its departments, at the proper time to chime in and harmonize with the labors of the others. A natural, prime swarm is, as a rule, a perfect colony; and if furnished with a hive that is perfectly adapted to their wants, and properly managed, will continue so. In order, therefore, to see in what perfection consists, it is necessary that we consider the bees from the swarm to the time that the comb system is completed, and through all their works."

If this and the next six pages that follow, which of course cannot be inserted here, simply convey the idea that a queen and workers are all that is necessary to a *perfectly balanced* colony of bees, I will quit writing. When I said that such a colony "consisted only of a queen and workers," it strikes me I did not say, "that as long as a hive has no drones it is *well balanced*," but may be I did.

I would like to notice some other points in Mr. Dadant's article, but I am already trespassing on space that could be better occupied. I will, however, notice one unkindness as I consider it; that is his charge that I claim that my "hive alone produces the certainty of non-swarming," etc. I say "unkindness," because in a conspicuous place, on the second page of cover, I say that: "In order to enable all to secure the benefits of the New Idea Hive, I will furnish them with Langstroth hives, or those of similar construction, arranged for frames," etc.

The theory is a general one, and was never claimed to apply to my hive alone; besides which, when Mr. Argo applied to me early in the season for directions to apply it to the Langstroth hive, I sent him directions; and, to save further lengthy correspondence, requested him to send it to the JOURNAL for publication, which he did, and it was published in full; and I get numerous letters from persons who have changed their hives to adapt it to the "New Idea."

Mr. Dadant closes his article by an unfair criticism on a hive I sent him several years ago (1869), and conveys the impression that it is the "New Idea" hive. Such is not the case; but, as think that your space can be better occupied, I will not discuss the merits of the section hive, except to say that he has never given it sufficient trial to entitle his opinion to any weight, and as for crushing bees it is less liable to that than any other frame hive; and, if it happens, it is through sheer carelessness or awkwardness. But he is not open to conviction, as he says:

"As for me I will be contented with the hive that I have used for eight years." So was that pattern of an old fogy, that tradition tells us about, "contented" with the stone in one end of his bag to balance the grain in the other, because he had not only used it as long as Mr. D. has his hive, but his "daddy" did it before him, and its use was hallowed by the sanctity of antiquarian worship.

D. L. ADAIR.

Hawesville, Ky., Aug. 10, 1873.

[For the American Bee Journal.]

The Honey Bee.

[CONTINUED.]

Treatment of the Queen by her Subjects.—It should be observed, that the little glass hive in which the queen was placed, contained only about a fifth part of the original swarm, which had been divided on a Saturday. On Sunday the bees seemed discouraged, went out into the fields and came back, bringing with them very little material. On Monday they labored more assiduously, as, in six hours, they had formed a piece of comb containing sixteen or eighteen cells; but at two o'clock of the same day they quitted the hive. Reaumur, however, returned them. On Tuesday they remained very quiet; and, although the sun was warm, and the time of the day (about 11), that at which the hive presents the busiest scene, they were resting in groups. All this seemed to prove that they were not contented. They had a queen and the materials for building, and yet not a cell was constructed. In a few minutes, while Reaumur was pondering on the motives of these insects, or rather on the obstacles that contravened their instincts, the queen was seen on the floor of the hive; a dozen workers instantly came buzzing around her, the hum increased, and the whole hive appeared shortly in a state of great agitation. Little divisions were formed, one or two workers going, were followed by the queen and the whole left the hive for the second time.

According to their usual custom, they flew round and round in circles, and at last settled in a solid mass on one of the branches of a neighboring tree. As soon as Reaumur saw this he hurried to look for the queen, and found her; not in this mass, but quietly resting on a leaf and at a little distance from it, "apparently," says he, "as if aware that it would be inconvenient to bear the whole weight of her subjects." It seemed that she had but to indicate the spot near which they were to settle, by hovering around to bring them thither.

Thinking that the disproportion between the number of bees and the size of the hive might have been the cause of their disgust, Reaumur, this time, contrived to inclose only four or five hundred along with the queen. But this step proved unfortunate. The little colony remained in the greatest agitation, and altogether neglected the queen, who wandered up and down quite unattended. The rest, however, which had not been inclosed with the queen, did not imitate the example of their fellow-captives, but soon found her out; and, not

being able to obtain admission, covered the hive in a mass. Having got rid of these, he was desirous of trying whether those which, three days before the original division of the swarm had been separated from the queen, would recognize her after this lapse of time. Having placed the little glass hive near the box in which these had been inclosed, in less than a quarter of an hour they seemed to have discovered that a queen was in captivity, and scarcely a bee remained in the box, but all came and covered the glass hive. At first, Reaumur attributed this effect to the attraction of the constant noise kept up by the agitation of the bees within the glass hive, but when this hive was placed, under the same circumstances near another which had a queen, none of the workers of the latter hive seemed disposed to quit their queen to attend the stranger however hard her lot. It would appear, then, that the bees, which were without a queen, knew where there was one; but those which had one paid no attention to another.

On Wednesday, however, the bees left the glass hive for the third time, but after a short time returned; which encouraged him to hope that they would remain permanently. The next day the workers labored in earnest, and constructed pieces of comb. But the situation of the hive being too hot, they left for the fourth time; fled to a large hive in the neighborhood, and were massacred by its bees.

Such was the end of this portion of the original swarm. That of the other was not less tragical. It has been already observed, that when Reaumur divided the swarm the largest portion was queenless; these he placed in a commodious hive, leaving the entrance open. The number of those that went into the fields was very limited, and these returned unladen. Although the days were fine, the number of workers was very great, the hive such as they liked, for they evinced no symptom of a wish to quit it, still not a cell was made; while, during the same space of time, the bees of the little glass hive, although they had but a slender portion of workers, contrived to make two little combs. Thus it would appear that their instincts hinge on the love of offspring. Those bees which possessed a queen capable of giving birth to thousands of young, prepared cells for their dwelling, and honey for their food, and this they effected under every disadvantage. Those, on the contrary, which were without a queen, and, therefore, without the hope of a numerous progeny, were content to live from day to day. Their numbers daily diminished, so at the end of three weeks scarcely a thousand remained, and the whole of these were one morning found dead at the bottom of the hive. This was not a solitary experiment. Reaumur and others have repeated it too often to require further proof—that the loss of the queen destroys all motive to exertion, so that she may truly be called the soul of the hive. To ascertain whether this feeling of devotion was confined to the particular queen which gave them birth, Reaumur made an experiment.

He shut up a queen taken from a hive, with some workers taken from another, so that both were strangers to each other. "I was curious," he says, "to note how she would be received, and I saw her received like 'a queen.' Bees to the number of a dozen or more surrounded her and treated her with great honor. It happened that the box in which she had been inclosed was filled with dust, in consequence of which, when introduced among the workers, she was literally gray. The first care of the bees was to clean their future sovereign. For more than two hours she remained at the bottom of the hive, surrounded and sometimes covered by them, while they licked her on all sides. For more than two hours I witnessed this interesting scene."

For a day or two, Reaumur kept them close prisoners; but subsequently he placed them near the spot from which they had been taken and let them fly. He found, however, that, though they went out, they returned to their new hive and queen, and constructed cells for her accommodation.

This fact removed Reaumur's doubt. These bees had been taken from a populous hive, well stored, and yet they completely forgot their old companions and their birth-place; put up with the inconveniences of a small hive, and undertook to labor for a stranger. But, although thus prodigal of their affections to any queen, still a number of hours must elapse before they will adopt a stranger.

It appears, however, that the workers do not at all times pay the same attention to their queen; while she continues in a state of infecundity she seems for the most part an object of indifference to them, but as soon as this event takes place she is treated with the honor due to the future mother of a populous colony.

"I have," says Huber, "seen workers bestow every attention on a queen, though sterile; and after her death treat the dead body as they had treated herself when alive, and long prefer it, though inanimate, to the most prolific queens I offered them."

These humble creatures cherish their queen, feed her, and provide for her wants. They live only in her life, and die when she is taken away. Her absence deprives them of no organ, paralyzes no limb, yet in every case they neglect all their duties for twenty-four hours, and receive no strange queen before the expiration of that time.

"We are only sure of one principal of action," says Reaumur, "among bees—the love for their queen, or rather the numerous posterity to which she is to give birth. Each bee seems to

be actuated either by a sensation which has in view the welfare of all, or by the love of posterity. Whether they construct cells or gather a harvest of honey, it is never directly for themselves. This may appear somewhat paradoxical to those who have remarked that during the winter they consumed what they stored the previous summer. But the experiments just detailed show, that the moment they lose the hope of a numerous progeny, they cease to store the food which is necessary for their own preservation. "The love of offspring appears, therefore, to be the all-moving principle." Swammerdam was of this opinion; and all who study the habits of the bee attentively must agree with him. RENEDIUR.

[TO BE CONTINUED.]

[For the American Bee Journal.]

Natural vs. Artificial Swarms.

In approaching this distinction we feel that we are treading on delicate ground, we have no new theory to advocate, no new project to suggest, but in answer to a call from one of your correspondents, that we who have had experience should instruct those later engaged in the science, (I cannot forget the fact that bee-keeping is a science,) I have concluded to give my practice in the past, and I might preface by saying that it has always been successful, at least to such a degree that I greatly prefer an artificial to a natural swarm.

I would like to impress upon the mind of our fellow bee-keepers the great importance in this branch of our science of "making haste slowly." Has not Mr. Hosmer misguided our bee-keeping public? I fear so at least. But to the question. My practice for years past is this, (and unless more fully educated or better advised I shall still adhere to it,) that when my stocks have sufficient stores to cast natural swarms, I take from them three or five combs furnished with *brood and eggs*, place them in one side of a new hive, carefully brushing off every bee, then along with them I take two or three empty brood combs, I then go to another strong stock (I always operate about mid-day) and by feeding them, or blowing smoke among them, induce them to fly in great numbers, and when they are in full flight I remove their hive to a new location, and place in its stead the new hive containing the brood and empty combs. This is sufficient to secure a new and healthy swarm. But to those who are so fortunate as to be able to breed young queens, or to get early queen cells, I have another word to say. Before you place the new hive and brood on the stand of the old colony take a sealed queen cell and place it well among the brood combs, or better still, take a young *fertile* queen and enclose her in a wire cage between two of the brood combs, leave her there for forty-eight hours (I insist upon this length of time except in the swarming season) and then liberate her among the bees. This course will insure a strong stock, and from such stocks *early made and properly tended*, the apiarian may justly expect his greatest returns of honey, this at least is my past experience.

It will be observed at a glance that the number of frames written of do not fill the hive; this is just what we want. A division board has been insisted upon, this is good enough in its place, but permit me to suggest what I have found better suited to my purpose. Take a piece of heavy sheeting the exact length of the frames, and with this enclose the five frames, (this we deem sufficient for a young swarm,) and after the sheeting is well placed, take an empty frame and cover it carefully with the same sheeting, which place close to the inclosure. Then close the hive and permit the bees to work for three or four days, and if ready, introduce more combs or empty frames *between full combs*. In starting a new swarm always be careful to elevate the *rear end of the hive*, when new combs are to be built in empty frames, this in most cases insures straight combs.

In this connection, and nearly allied to it is another matter upon which it might not be amiss to say a word; that is the safe introduction of queens. This year as early as the middle of May I safely introduced four queens. My experience in this case is easy both of explanation and practice. I take a fertilized queen, place her in a wire cage the end of which is stopped with honey and pollen *taken from the hive I wish to put her into*, I place this cage at the top of the frames between two of the strongest brood combs, I leave the cage in this position for forty-eight hours and at the end of this time if the bees have not already released her, I proceed as follows: Take a brood comb *covered* with bees, set it on the outside of the hive, remove the wax from the end of the queen cage and liberate her among the bees. Should they manifest any dislike to her, (which is not at all likely,) they will cluster upon and try to smother her, in this extreme case, have ready a basin of water, throw the cluster into it and you can easily catch and cage the queen, this precaution will scarcely be necessary, if our instructions are observed. "B."

Beaver, June 5, 1873.

HOWEVER let your hives be rather too little, than too, great, for such are hurtful to the increase and prosperity of bees. If the hives be too great, the bees will be more lazy, working uncomfortably, because they dispair ever to finish and furnish their house; but yet if there be a competent number of bees, they will work industriously (though the vacinity be large) and complete as much with combs as shall be sufficient for them. But an over large hive is prejudicial to their swarming.

PURCHAS.

[Translated from the Bienenzeitung.]

Sugar Syrup for the Bees.

For over twelve years—1861, 1873—have I employed in my experiments, and in fitting out my bees for winter, more than 400 leters of sugar syrup, and always with the best results. A mixture of 7 parts sugar, 4 parts water reduced to 2 parts sugar and 1 part water, gives a syrup for the bees, as healthy, as accepted and as nourishing as the best honey. By the phrase "as nourishing," must be understood that a certain quantity of this juice will go as far as the same quantity of honey, in supporting a colony.

The art of preparing this syrup is very simple. You pour into a kettle 4 liters of water and 7 kilos of sugar, broken into pieces of from 100—200 grammes ; you place the kettle over a moderate fire, then you stir the sugar and crush the hardest lumps with a spatula; when the sugar is wholly dissolved, which takes place in from 30 to 40 minutes, remove the kettle from the fire, and when the mixture cools, you pour the syrup into vessels to be preserved for use. In this manner it can be preserved for more than six months.

While this mixture remained over the fire, it lost one portion of its water and is thus reduced to about 2 parts sugar and 1 part water, in my judgment the best proportions.

Waste of nourishment. Few bee-keepers are aware of what takes place, in a stock, which is being fed. They believe that the bees store up the food given them. But it is not so. Let a stock be weighed before it is fed, and then after it has been fed, and he will find the waste or loss of 1-5—1-6 of the food. I have made many experiments concerning this. I will briefly state one of them.

1st Experiment. 1860, August 10, 7 o'clock, in the evening, I weighed most carefully six stocks, of which 3 were to be fed, the other three not to be fed, as they were to serve as a standard of comparison. After weighing I gave three stocks equal quantities of honey, 11,750 grammes, free from any mixture with water.

On the 14th of August, at 8 o'clock, three stocks were weighed again. The three stocks which had received the 11,750 grammes honey and used it, showed a loss of 2,315 grammes, i. e. 772 grammes to each hive; the three stocks which were not fed, had lost 428 grammes i. e., only 142 grammes to the hive. The three hives had between their first and second weighing lost 1-5 of their furnished nourishment.

2d Experiment. 1869, August 2, 10 o'clock, A. M., I weighed 4 stocks marked A B C D. The stocks A and B were to be fed, while C and D were to receive no food. We will first describe the behavior of stock A. On the day on which it was weighed, at 6 o'clock p. m., it received 1980 grammes sugar syrup; on the following day, 3d of August, at 5 o'clock, A. M., it received 2,035 grammes of the same syrup, and on the same day at 11 o'clock, it received 2,045 grammes, in all 6,060 grammes. On the 4th of August, at 5 o'clock A. M when weighed it showed a loss 945 grammes in two days.

The result of the experiments of stock B are as follows:—On the 2d of August, 6 o'clock, P. M., I gave it 2,045 grammes sugar syrup, on the following day, 3d of August, 5 o'clock, A. M., I gave it another 2,110 grammes, in all 4,155 grammes. On the 4th of August, 5 o'clock, A. M., the weighing showed a loss of 775 grammes.

The two remaining stocks C and D, also weighed on the 4th of August, 5 o'clock, P. M., showed a loss of only 170 gr., 40 for C, and 130 for D.

Another experiment: 1860, June 27, 4 o'clock, A. M., a stock weighed 11,510 grammes; on the same day, at 8 o'clock, P. M., it weighed 13,050; gr.; on the following day, June 28, 4 o'clock, A. M., it weighed only 12,690 gr., showing a loss of 360 grammes over night. I could give many such examples, showing the loss over night after a very productive day.

Remarks. The storing of the food is always accompanied with more or less confusion, in proportion to the eagerness with which it is sought. If this confusion does not make itself apparent you may safely judge that the bees are taking little or no food. And to this confusion may be attributed the waste above mentioned. This loss is occasioned by the evaporation, which takes place more rapidly owing to this tussle and confusion than it would in a state of rest.

It is well known that when the bees during the day, carry in much honey, they set up a greater humming during the night, than they otherwise do. To this humming or fanning must be attributed this waste. Evident it is that the bees in a state of rest, do not lose in their weight during the night.

The stock A I gave, in 17 hours, 6 kilo of nourishment; had I given this quantity in six portions separated by 2 or 3 days, the loss would have been more than double.

Collen.

[For the American Bee Journal]

Wintering Bees.

In almost every bee-journal, English or German, we see arguments about the best mode of wintering our bees. We can raise honey in a good season, as much as any body, no trouble about that; but how to bring our pets through the winter safely, is what troubles us most. The bees of some of our friends die of dysentery, caused by bad honey, some on account of upward ventilation and some for the want of it, and as I see in the German *Bienenzeitung* especially a good many bees die for want of water.

Some of my neighbors and myself have been wintering our bees pretty successfully for several years. I have been waiting for some of my neighbors, more able than myself, to communicate their experience in wintering; but as extreme modesty, apparently, prevents them, I will with your permission, give my way of wintering and the result.

In the first place, I take good care that by the time of getting my bees ready for winter, all of the frames, as near as possible, have honey sealed or unsealed, in the upper part of the comb and that the lower part is empty or has brood in. I cut winter passages through all of my combs and prefer to winter a strong swarm to wintering a quart of bees. But I have wintered several times successfully less than a pint of bees in Langstroth's hives with ten frames of comb and without a partition board.

All frames with brood are put together, of course, and the unsealed honey as near the center as possible. I don't believe we are hurting our bees by overhauling them at any time of the year, even in winter, the weather permitting. The exchanging of places with the frames is often beneficial and may save the swarm.

After arranging all the frames in a proper manner, the brood as near the center of the brood chamber as possible, I cover them up with a woolen blanket which is lined with muslin. Small strips are layed under the blanket to allow the bees a passage over the top of the frames. The second cover is a straw mat lined with a double thickness of a coffee bag. The straw mat is of the size of the old fashioned honey board, completely covering the brood chamber. On top of the straw mat in front and behind, I lay two one-inch strips and on these strips the cover of the hive. I use the Langstroth hive exclusively. The woolen blanket and the straw mat retain the necessary heat and keep the bees comfortable while at the same time they act as an absorber and the air passing directly over the mat dries up the moisture. We know that the old fashioned straw hive is the best hive for wintering and with my straw mat arrangement I have the principle of it.

I had not a square inch of mouldy comb in any one of my hives, no dysentery among my bees and I lost none. Without the second story on, the hive is easier uncovered and every one of us knows that the handier we keep our bees the oftener we look at them. This done with discretion is very beneficial.

The following will illustrate the quality of the straw mat as an absorber and the necessity of an air passage above the mat. Early in March when I wanted all the heat to be retained in my hives to promote breeding, I removed the strips from above the mats to let the cover rest flat on the same. The result was that the combs became mouldy in every one of my hives. A readjustment of the strips under the cover and the mould disappeared.

Would not my bees have dysentery if I had permitted the mould to grow, and would not in this case a good many of our brethren have attributed the cause of it to the poor quality of honey? I have, last spring, examined the bees of several of my neighbors, affected with dysentery and found invariably the combs and insides of the hives mouldy. I was speaking of some of my neighbors as able bee-keepers. One of the most prominent is friend Hill, in Mt. Healthy. His apiary is undoubtedly one of the best in the state of Ohio in regard to profit and pleasure both. He also winters out doors very successfully, lost no swarms last winter and his loss winter before was very small indeed. His way of wintering differs from mine but the principle is the same. The same is the case with another party, out door wintering is no trouble to him. I hope that they will tell their own story some of these days. In my own case I must state yet that I have double sides on my Langstroth hives which at least serves a great deal to break the cold winds.

CHAS. F. MUTH.

[For the American Bee Journal.]

"Sundry Items."

"Spring Feeding."—Although the results from one hive is no criterion to go by, still it may not be out of place to give its yield, and I hope yet to be able to report from a large number. I commenced feeding on three hives, early in March, but soon found that two were not gaining any strength. Upon examination found the queen in one a drone layer, the other barren, (both were old queens, and should have been replaced by young queens last fall). I stopped feeding them, but fed the other one regularly. As soon as all the combs were well covered with bees, I removed a comb of brood to one of the queenless stocks, supplying its place with empty comb, and in a few days removed three combs from queenless stocks, putting them between combs of brood in the hive I was feeding. Increasing it to eleven sections, and reducing queenless stocks to five sections, which was about this time supplied with a queen. The 30th of May the hive I was feeding was very full of bees, they being clustered on side walls which I removed, took off three sections of combs, put on sixteen boxes, shook off bees from combs removed, returning combs to hive I had taken them from. The result on hive fed was, that by reducing size of chamber and then putting on boxes, I had bees clustered in them at once, and building comb in twenty-four hours.

July 4, all the boxes were well filled with the exception of capping over of lower edge of outside comb in two or three boxes. I had 107½ lbs "prime clover honey." This would make the yield three pounds per day for thirty-five days. The weak colony, which was supplied with

four combs of brood and I think not less than twelve pounds of honey from hive fed, increased rapidly, so that I took a swarm from it, while the other queenless stock which received no more help than to supply it with a queen soon as possible, has given no swarm or honey. When boxes were removed from hive fed, I took off a swarm as there were too many bees. Last season I had a hive arranged with section boxes for trial. After waiting a long time for swarm to put in it, I took one off for it. It came off very dry soon after, and honey failed. So I had to feed to winter them. This spring they were queenless, and as boxes did not fit other hives, I have not used them. Next season by feeding, and adding combs as the bees will cover them, increasing size from seven to twelve or more sections, and when ready for boxes, reduce size of brood chamber to seven sections, moving them over against side of case. This will leave a space as large as brood chamber, which will be filled with boxes, then turn hive half way round, making space occupied with boxes the *front of the hive*, open entrance on that side, shake off bees from combs removed, using combs for swarms. By this arrangement I will get a large cluster of bees *at once in front end of hive*, and I am confident honey will be stored more rapidly. When the boxes are removed, brood chamber will be moved back to middle of bottom board and hive turned back to its former position.

"Wintering."—A correspondent of Novice's *Gleanings*, who tried out door wintering "without protection," writes in April number, that he had made up his mind decidedly, that in this climate out door without protection is very unsafe. Novice adds, We have been obliged to come to the same conclusion in regard to out door wintering. I think it due the readers of the Journal that Novice's *conclusion* should appear in its columns, after what he has written on this subject in former numbers.

"Introducing Queens."—Upon releasing a Milan queen to the bees, I was anxious to be sure that she be well received, so I removed a comb from the hive, and let the queen go out on it among the bees, and was at once satisfied all was right. I introduced a second Milan queen same way and others since. Being at Mr. Barclay's apiary when he was about releasing a queen, I suggested the same way, with like results. If one has a valuable queen I recommend this way of releasing, as should the bees pack on her, scrape them off into a basin of water, when the workers will scatter and the queen be recaged. I saved one this season this way. This plan of scraping a wad of bees into water was suggested to me by Mr. Barclay. I think it first-rate, as there is great danger of losing the queen in trying to *pull* off the bees.

J. E. Moore.

Rochester, Pa., Aug. 13, 1873.

[For the American Bee Journal.]

Out-door Wintering.

Article II.

In wintering bees out of doors we have always aimed to have all the stocks strong with plenty of honey and bee-bread. Each hive is allowed to remain upon its summer stand, which is four inches in height. We do not allow much upward ventilation—some hives that are a little weak, but healthy, *none* above. Strong hives, unbalanced in some particulars, for going into winter quarters, we allow a little upward ventilation through a small hole, covered by one or two thicknesses of blanket material.

The hive in winter rests down tightly on the bottom board.

The lower ventilation of each hive (which is through the entrance hole) is gaged in proportion to the strength of the colony and the age and condition of the bees and honey. But close observation and practical experience are necessary to the attainment of a knowledge of the proximate amount of lower ventilation needed in each particular case.

In addition to the foregoing we use a protection board the width of the front of the hive, which we lean up in front of the entrance hole, one end of which rests upon the ground while the other rests against the front of the hive two-thirds of the way up to the top of the brood chamber. At right angles to this we usually attach other boards (so as to fasten up the corners) which rest on the ground and against the hive in like manner to the first. Any kind of rough boards answer the purpose.

When the weather is calm and not too cold, or is suitable for the bees to fly out, the front protection board is removed.

We attach a great deal of importance to the idea that bees should never be disturbed so as to cause them to break up the cluster in freezing weather, and we govern ourselves accordingly.

We have never had occasion to feed in the fall, as the principal honey harvest here is during the fall months, continuing until frost, and there is usually very little uncapped honey in the hive when frost comes, unless the extractor has been used too late in the season, which we think has been done in many instances, to the great disadvantage of the bees as well as their owners. Any stimulation by way of feeding out of season should, if possible, be avoided. During winter, bees require sealed or capped honey in the hive, and so contiguous to them that its very existence there is a part of their reality and normal condition as a colony. Much damage is often done by feeding, but at proper times and under proper circumstances we are very much in favor of it. As it is natural for each variety of vegetable life to have its proper season for development, fruitage, and decay,

during which time there may be much done to add to, or diminish from the otherwise natural results, so the apiculturist may, at proper times, by judicious stimulation, benefit his bees, or, by trying to force nature against nature, do them serious injury.

From actual results we cannot claim, in our experience, any great advantage for the double-cased hives, over tight, single-cased ones. In our opinion, the fact merely that a colony of bees has one, two, or three walls on each side of it is of minor consideration in successful out-door-wintering.

We have never lost any bees which were managed in winter in accordance with the plan herein partially indicated, and never have had any of them to show signs of dysentery, but, on the other hand, to come out vigorous in the spring, ready to go to work.

It is necessarily the case that during flights in winter many bees chill and never reach home; but there is little doubt that many such left the hive under such unpropitious circumstances, because it was disease or death to remain longer in the hive, and nature, the "kindest mother of us all," thus secures to the remaining bees a healthy home.

In conclusion, upon this subject, we would say that it it is one that requires more thought than we have been able to give it, and we do not feel extremely confident that we have even stated all the *main causes* that have led to that uniform success which we have had.

Black Jack, Kansas. M. A. O'Neil.

[For the American Bee Journal.]

Our Experience in the Bee Business.

We began keeping bees in its rudest form, that is in logs cut from the trees containing the bees. Moved them direct from the woods to our apiary. That was in the year 1847. The swarms we put into common box hives. We had good success for a time, getting as high as 168 pounds of white comb honey from some of our swarms. Had "luck" until about 1854, then we lost all the bees we had. And no wonder, for at that time we knew but precious little of the interior of a bee-hive. But you must not think we knew it at the time, for at that time we thought we were smart, (like most all beginners,) and knew about enough. For we knew there were two kinds of bees in a hive, drones and workers, for we had seen them. But as for a queen, who ever thought of such a thing in a bee-hive. But since, we have found out that there is an important bee in every swarm of bees, some call it a king and some a queen. But a king could not run domestic affairs so well, so it must be a queen. At any rate not having as many such bees as we had bee-hives, we did not have as many swarms as we thought, only hives instead of swarms. Well, we soon stocked up again, box hives of course. But we soon adopted the Langstroth hive, and have had bees ever since. Our success has been since then controled by the care given to the bees. For only one year in that time, twenty-six years, did the seasons fail to give a surplus of honey, that was the year '69. It was very wet and a total failure. Out of 201 swarms in the summer we lost fifty-two, during the year we lost 176, so we had only twenty-five to start with in 1870, increased them to eighty-four. Next year 1871 had seventy to start with increased to 128, got extracted honey, 15,000 pounds, comb honey a little over 1000 pounds. In spring of 1872 had about eighty swarms, increased to 126, got about 7,500 pounds honey, mostly extracted, in 1873 began with seventy-two swarms, got a little over 5,000 pounds extracted honey. Have taken good care of them this year. Increased them to 353 swarms. They are nearly all in a good wintering condition. We will take from heavy ones and give to light ones, and make all strong.

We winter in cellars, and find that when we take time to get all of the swarms ready for winter, and put them away as they should be, all works well. But we had a great deal of other business to see to, and have almost always neglected to take care of the bees, only just when we could rob them of their honey. But we are in shape now to give the bees and the bee business the necessary care. We keep our bees in two places, two and a half miles apart. In one place we have 160 acres of land and in the other 235 acres, all of which we intend to work for the interest of the bees, in cultivating such crops as will pay independent of the bees' and also pay in honey. In that way we make it pay well. We first got the Italian bees in the year 1862. We paid Mr. Langstroth $20 00 for a queen, express $2.75, cost us $22.75. She was a good one, and it was money well laid out. We have had the Italians and natives side by side for eleven years, and find the Italians to be superior to the natives in several respects. And in final results a great deal the best bee. That is, one with another they get by far the most honey. We have been weeding out the natives this year, so next year we hope to get entirely clear of them.

As we keep only pure Italians in one apiary, and raise queens in that apiary, we have found that to give the bees the necessary care, with fifty swarms of bees a man can make more ready money from them than from an eighty acre farm, for they work for nothing and board themselves; and the expense is a mere trifle compared with other pursuits, and profits of each. We have another good place to keep bees, and intend to stock that up also next year, and will make a thorough business of the bee business.

The market for honey is increasing from year to year, so we think there is no danger of overdoing the business. J. & I. Crowfoot.

Hartford, Wis., Sept. 9, 1873.

[For the American Bee Journal.]

Mice Cleaning Combs.

The practice of giving combs, to be cleared of dead bees by mice, has been practised in frame for more than fifty years.

It is good only for those who own the old gums or boxes. As the owner of these immovable hives cannot take out the combs, if he wants to preserve some hives full of combs, he has to clean them, to prevent moulding, and mice can do that work for him.

But the cleanliness of this process is doubtful; wherever mice have access, they impregnate the things around with their special scent, which is far from being agreeable, besides they eat not only the dead bees, but the combs also.

There is, for us, owners of movable comb hives, a better way to clean our combs; it is to introduce them in a May colony, between two combs full of brood. The next day all dead bees are removed, and the comb is scented anew with the good odor of living bees.

CH. DADANT.

[For the American Bee Journal.]

Feeding Bees.

Last spring we had made up our mind to remove all the honey with the extractor from our hives, but as the honey gathered this year is of such a good quality we have concluded to risk it once more.

The readers of the JOURNAL will remember that my mode of mixing the syrup is about this: To six pounds of granulated sugar add five pints of water, boil five minutes. That is our experience for the past fifteen years. One of the best and most distinguished apiarians in the U. S. informed me last spring that he put about the same amount of water with his sugar as Mr. Root does. I inquired if it didn't crystalize, and his reply was no. Some time in May, I received a neucli hive, containing five (5) frames, of that gentleman and the way the granulated sugar rattled out of those combs, made me think that that man was not quite as observing as he might be. However, we think that four pints to six lbs. of sugar will do in Oct., if it is boiled 10 minutes.

We think the cheapest (and can't say but what it is the best) feeder in use, is the one Mr. Langstroth has spoken of, that is, he mentioned it to me, don't remember of his describing it in the JOURNAL. It is made of an oyster can or a tomato can, holding about a quart. Two combs are tied together at the largest end. One is put in the can for the bees to run down on, while the other is left outside for them to run up on. As there is no patent upon this of course it must be a good one. Our way of feeding bees is to give each stock in Sept. or Oct., enough to last them through the winter. Nursing and feeding bees in winter is without profit. We are of the opinion that bees will winter well throughout the northern States, but in those parts of the South where it has been so wet all summer we think they will winter poorly. One year ago (8 July, 1872.) we stated in these columns that it was our opinion that the loss of so many bees the previous winter, was owing to the poor quality of food gathered by the bees the season of '71. We are of that opinion still and we find hundreds who came to the same conclusion.

In those sections where the honey is poor, we advise the removal of it, and sugar syrup fed instead. This is the only sure way to save the bees.

Last season very little pollen was collected here, and the consequence was the bees left off breeding very early.

This season pollen is abundant, and at this time (Sept. 11,) my hives have nearly as much food as they did in the spring—or last of May, rather.

We shall expect them to commence breeding at the usual time next spring. Very few bees in these parts commenced breeding last spring, earlier than first of May, as the weather was so cold no pollen could be collected sooner than that time.

H. ALLEY.

Wenham, Mass., Sept. 11, 1873.

[For the American Bee Journal.]

Farmers Should be the Bee Keepers.

MR. EDITOR:—There are several reasons that present themselves to my mind, why the farmers should be the bee keepers; and the profits from the flowers, produced upon their farms be theirs; as well as the profits of fields of grain and grass. The fields are theirs and they are entitled to the products. The product of honey may be secured with much less expense and trouble in proportion to its value, than the other products of their fields. From 50 to 200 lbs. of honey may be secured annually, upon each hundred acre farm, on an average; worth from $16.00 to $60.00—and require but an outlay of $10.00 for several years;(i. e.) the cost of one hive and swarm of bees.

I have a swarm placed in my hive in 1867, for which I paid $5.00, from which I have taken in three years 480 lbs. of white clover honey in boxes, and in the seven seasons including its first year has averaged more than 100lbs. This, an ordinary season, I have taken from it 140 lbs., by August 2nd,—of course all white honey.

If we divide the cost of the hive and swarm ($10.00) into 1000 parts it will bring the actual cost of the honey at one cent per pound. But this is my best hive, the only one from which I have taken 200 lbs. of honey in one season my next best gave me 174 lbs. But it can hardly

be expected that farmers with only one or two hives of bees will seek to become experts in the management of bees and handle movable comb frames, raise queens, &c., &c.; nor is it necessary. The hive is constructed with either movable frames or bars. I have used both. The best hive of which I here speak is made with bars; and no trouble, but to put on the surplus boxes in their season and remove them when filled.

I have another hive from which I have this season taken 94 lbs. of surplus, all white clover honey; 234 lbs. from two colonies.

In many fields, I have no doubt but they would have done better, and in some not as well. This is but an ordinary field.

Any communication addressed to me upon the subject, at Albany, N. Y., will receive due attention.

JASPER HAZEN.

Albany, August 25, 1873.

P. S. If we consider a few facts, the product of 200 lbs. surplus by a non-swarmer need not surprise us.

1. No Surplus honey is stored by the swarmer, as a general rule, while the bees are making preparation for swarming. They cluster outside of the hive in idleness.

2. If a second swarm issues eight or ten days more are lost.

3. Sometimes third and even fourth swarms issue.

4. All this time is improved by the whole working force of the whole colony in the non-swarmer. The old colony and all the new swarms are the product of the old queen, and all the brood in the first swarm. With such a force instead of working in three or more hives, all operating in one hive and its surplus boxes, with no loss of time in preparation for swarming, I think 200 lbs., and even more may be secured in surplus.

J. H.

[For the American Bee Journal.]

To Novice.

DEAR FRIEND NOVICE—Do you think you have only *one* friend who understands your motives, and does not hesitate to say so through the JOURNAL? If you do, it is time you were undeceived; and I beg that I may be counted as a second, and I am sure that the third, fifth or twentieth could be found with very little trouble. How anyone who has read—with pleasure and profit—as I have, every article you have written for the JOURNAL, as they appeared, can accuse you of using the pages of the paper for your own benefit, is more than I can understand.

My pleasure in reading the JOURNAL, of late, has been very much lessened by the constant and unmerited attacks upon you—to whom all of us are indebted for so much useful information, so agreeably imparted. That you have hit some *hives* pretty hard is not your fault, but theirs; as your aim was evidently to teach true principles of bee-culture, and if the use of these hives was inconsistent with this end, you could do no less than you did. As to there being any room for profit in prices at which you sold your articles—and I believe there was and is very little—that is no one's business but your own, as you advertised in the *advertising* columns of the JOURNAL, and gave full directions for making them in the reading column; so that it was a matter of choice whether to make or purchase them.

DANIEL M. WORTHINGTON.

St. Denis, Md., Aug. 16, 1873.

[For the American Bee Journal.]

Small vs. Large Hives.

In an article on cheap hives, by D. L. Adair, in the *Annual of Bee. Culture* for 1872, also in an article read before the North American Bee-Keepers' Society by the same author, ideas are broached that many will ridicule. But I am fully prepared by actual experience to believe that he is in the main correct. In my nuclei hive of three combs, a queen will occupy only about such a proportion of the cells with brood and the remainder is occupied with pollen and honey; and in my standard hive with twelve combs of the same size the same queen will occupy the twelve combs in the same proportion. Now we increase the size of the hive to thirty-two combs in the New Idea form and the same queen will occupy twenty six of these combs just as fully as she did the three in the nuclei hive. This is a positive fact, no guess work about it.

Now the reader will readily see that if we are correct in the above, hives of 2000 cubic inches in the brooding apartment are not half large enough. And we are now positive that hives of 4000 inches in the brooding apartment, when in the right form, will produce three times the amount with the same queen that hives 2000 cubic inches in the brooding apartment will. The past season we had eighteen of the large twin hives, and four oblong or New Idea form of hives. We obtained all of our surplus except fifty pounds from said stocks, (1600 pounds in eight days,) and this fall when they had done gathering, we had three times the weight of honey in the large hives that we had in the same number of small or 2000 cubic inch hives. Yet the large hives had no better queens than the small ones had, and the large hives (with the exception of three that cast swarms) went into winter quarters with nearly three times the amount of bees that the small ones did. Remember this was in the same yard and with the same management as nearly as possible. Those three that cast swarms did so

after we calculated the swarming was done for the season, and consequently we were attending to our farming and letting the bees take care of themselves. We examined several of our small hives and found they were not filling up with honey, and we supposed of course the large ones were not doing much better, so did not examine them until after they commenced swarming for the want of room. We are fully and firmly convinced that we want no more small cheap hives, so much so that we have sold nearly all our small stocks to be delivered in the spring, and thus get rid of our small hives to parties that are afraid of our large ones.

It is quite a task to convince visitors that one queen and consequently one swarm fully occupies those large hives. By sale we are reducing our stock lower than we like, but we did not want to throw away our small hives.

E. GALLUP.

Orchard, Iowa, Feb. 1873.

[For the American Bee Journal.]

Headings.

JAMES HEDDON.

MR. EDITOR:—I keep the back numbers of my JOURNAL for reference, and have eleven unbound ones, at a time; now if it would not inconvenience you or your correspondents, I would like to see the writers name just below the "*heading*" as above.

When I look over the JOURNALS, and find an article upon the subject which I wish to practice upon I would like to see the writer's name without having to turn over one or more leaves.

I would say to "B," on page 63 Sept. No. of JOURNAL, that I agree with him as regards residence and date of correspondents, and would also like signature in full. Please give us small change for that "B," as we might want to write to you for some explanations.

We wrote to W. I. Davis, of Youngsville, Pa., for farther explanation concerning his wintering house, and got a perfectly satisfactory answer: together with a price list of Italian Queens. Now don't you believe we bit at the bait and was caught to the tune of seventy-five dollars; and like some soldiers we have heard of bettered our condition by being captured; for we found Mr. Davis the squarest dealer we ever dealt with, and his bees the best we ever had the good luck to purchase, and we have bought six Queens before of as many different *noted* breeders. We do not owe Mr. Davis any cash but we owe him a debt of gratitude that cannot be paid with lucre.

"LITTLE THINGS."

Yes; most of the experience you kindly relate, *is not* at all practical in *our* locality. Here is *our* advice according to our experience:

Supers.—Aim to get all the honey stored in supers and barrels possible, then work hard at extracting from the brood chamber to give the queen room to deposit eggs.

Extracting.—Never wait for the bees to seal up the combs, as it is needless labor to uncap them and wax thrown away in capping besides loosing half your crop.

Robbing.—When every thing else (wet grass and all) would fail, I have checked robbing promptly with camphor gum used as directed in back No. of JOURNAL. But then localities differ.

King Birds.—We live in a village, and there is a fine for shooting within the corporation, how shall we kill our king birds? again, localities are not alike.

Worms.—Don't use blocks with slots in them for catching worms, as you will be very apt to neglect them when they become worm nurseries. Keep strong stocks of Italian Bees and forget all about worms.

Combs.—Full combs will preserve themselves, if not put in a damp place like a cellar, if they are the honey will become thin. Empty ones can be preserved by hanging one inch apart in cellar or wintering house having a circulation of air between them.

Water.—Our bees won't drink at home and *never would.*

Spiders and Ants.—The bee-keeper's friends, "Will you walk into my parlor, said the Spider to the" *Miller.*

"Do you know where there are any Miller's eggs"? says *Ant Black* to *Ant Red.*

The above is *simply* our experience.

By the way Mr Editor we would not like to have you discourage the efforts of our witty friend Simeon Plicity. His articles, though they may not be particularly nutritious, are excellent seasoning to the general dish.

My Apicultural efforts for this season have met with success beyond my most sanguine expectations. Will send you report at the close of season.

Dowagiac, Mich., Sept. 6th, 1873.

[For the American Bee Journal.]

Extracted Honey, and the Proper Manner to Put it Up for Sale.

I have been advising my fellow bee-keepers as you may remember, to put up their best honey in one and two pound jars, a dozen jars in a (neat) box, and to sell it by the gross as the best means of introducing machine extracted honey, and in order to dispose of their product readily. I can sell in my own store three times the quantity of honey I produce to better advantage therefore don't care to wholesale it. However, in order to do my share in the introduction of machine extracted honey, I gave Aug. 25 (last) to I. T. Warren & Co., of this city, half a gross (six boxes) one pound jars honey to sell. Sept. 1 Warren sent me an order for one gross one pound honey and one gross two pound honey

I filled it promptly, as I did also another order for two gross one pound honey on Sept. 11 last. Other parties have sent me their orders since, but being too busy I have had no time to fill them, besides I do not wish to wholesale all of my own honey. My price is $42 a gross for one pound jars honey, and $80 a gross for two pound jars honey, this includes the boxes of course. My boxes are branded and my jars tinfoiled and labeled. Honey put up in the above style and sold at above prices brings about 20c a pound exclusive of the work of jarring and packing.

I will pay at Cincinnati depot 16c a pound for all choice white clover honey I can get, and if my brother bee-keepers will do their own work and bring their honey to market in a proper manner it will suit me all the better. My object is to introduce machine extracted honey, as it is not only the most prize-worthy, but also the most profitable to the bee-keeper. Comb honey is selling here at 15 to 35c according to the condition of the honey and the size of the box or frame. I would pay 30c a pound for first-class comb honey put up in small frames about five inches square.

As it may be of interest to some of our friends to know the names of some good firms in our city, whereat, eventually to dispose of their machine extracted honey, I may here name I. T. Warren & Co,, and Reis Bros. & Co., both are large dealers in fancy groceries and canned fruits. Wholesale confectioners are also good hands to sell honey in good shape, while honey put up promiscuously can only be used by them at a low rate and for manufacturing purposes.

As bee-keepers are noted for their communicative propensity, let me tell you, Mr. Editor, that my bees averaged me this season over one hundred pounds per hive, all of which was collected between May 23 and June 28 and all gathered from white clover.

Chas. F. Muth.

Cincinnati, Ohio.

[For the American Bee Journal.]

Moth-Worm Ravages.—Bee-Hives for Fifty Cents.

On page 47, August number, Mr. Charles E. Widener observes what he terms a "strange freak," in some of his nucleus swarms. I observed the same *freak* in my own apiary. In July, I found bees cutting out whole circles of brood; meantime the young bees were struggling to get out of their cells, but could not. Upon examination I found they were securely fastened to their cells by a minute miller-worm, and such at the base of the cell. I also found brood uncapped in all stages of growth. A close examination of this also showed the presence of miller-worms by the body of the immature bee, being covered with the excrement of the miller-worm. As far as my experience goes, I never observed miller-worms work in the bottom of the cells between the brood; I have always found the worms on the surface of the brood.

The swarms infested were medium swarms. There was bees enough to cover the combs. As to how the miller deposited eggs, in whole sheets of comb, I have only one theory to advance; i. e., the miller did it herself. My full swarms were not afflicted in this manner.

We notice, with joy, that there is at last a genuine opposition in the hive business. Mr. Alley has got his "dander up" in dead earnest. We think, however, hives can be made still cheaper. We will undertake to furnish movable comb hives, such as we use, all ready to put bees into, for fifty cents; capacity of the hive 2,000 cubic inches, and warranted to give satisfaction. Scientific.

Hartford, N. Y., Sept. 18, 1873.

[Translated from the Bienenzeitung.]

Intensive Bee-Keeping.

Truly, the advance in cattle breeding and cultivating the ground, in these latter times, dates from the day when we began to feed plentifully and manure heavily. I have practiced these principles of intensive culture with my bees for some years passed, and it has pleased me so much that I will never forsake it. I give each stock, from the first of April to the time of the blossoming of the buckwheat, (when the bees, owing to the cold, are unable to fly or the yield of honey poor), every eight days, at one time, about two pounds of sugar dissolved in water. I have fed so far this year, to each swarm, fourteen pounds of sugar. It already shows that this has been advantageous. I wintered the same number of swarms as my neighbor. He has now twenty-five stocks, which he himself declares, after he had fed somewhat lightly, that they have not altogether three pounds of honey. They are so weak in numbers that a division of the swarm is not to be thought of this summer. My hives are full of brood, while those of my neighbor's have very little.

I gave each stock sugar to the amount of 2thlr. 24sqr. I have received ten pounds of honey, worth about 2thlr., besides I made some strong, artificial swarms, which are also worth 2thlr. I thus produced from 2thlrn. and 24sqr., 4thlrn. Also, theoretically, it may be shown how profitable this strong feeding must be. The proffered food will, in part, be consumed, and in part used for the brood. That which was consumed is not lost, even in the present year yielding its profit. The sugar costs 6sqr., the same as honey, but one pound of sugar gives more than one pound of honey. No one will deny that the honey consumed in feeding the brood, has not been used to advantage.

The small loss, caused by the restlessness following strong feeding, I do not take into account.

Beyond this mere material profit, the apiarian derives no little pleasure from the fact that he is in the possession of stocks that are not standing still, but making a steady forward progress. I consider poor feeding as the chief cause of failure in bee-keeping, as now carried on by us; in this respect bee-culture is fifteen years behind the progress made in scientific agriculture. DR. DONHOFF.

Orsoy, June 12, 1873.

P. S.—A pastor in the neighborhood of Wiesbaden asks me for a remedy to prevent his swarms from lighting on his neighbor's trees. He asks whether, if a number of dead bees were strung together, so that they would present the appearance of a swarm, and when placed in a garden, the swarm would light on them?

My advice to him was, to place a spare queen in a wire cage, and hang it before the stock about to swarm, and perhaps the swarm would light on it. DR. DONHOFF.

[For the American Bee Journal.]

The Season of 1873.

This has been the poorest season for bees, in this locality, we have had for a number of years. It was cold until in June, then we had about two weeks of good honey weather, after that it was too wet until after white clover was gone. Basswood did not amount to anything, as not one tree in a hundred blossomed at all; and since harvest the grasshoppers have eaten up almost everything in the shape of honey-yielding flowers. I sowed a piece of buckwheat for my bees, and that, and a few small pieces sowed by the neighbors are about all my bees have to work on.

I have one hundred swarms of Italians, all in good condition for winter. Some of them will yield nearly 100 pounds of surplus, whilst some of the late swarms will not gather more than it will take to winter them. I think they will average thirty pounds of surplus each.

West Lodi, Ohio. JAMES BOLIN.

[For the American Bee Journal.]

Bee-Keepers' Call.

The Mississippi State Fair will open in Jackson, October 13, and continue one week. We desire to organize a Bee-Keepers' Association. and to discuss questions of interest to those engaged in bee-culture. A general invitation is given, to send hives, extractors, and other improvements pertaining to bee-culture, by those who have them for sale. Direct all samples to Col. J. L. Power, Jackson, Miss.

Dry Grove, Miss. W. F. STANDEFER.

Reports, Experiences, and Opinions.

G. W. Zimmerman, Napoleon, Ohio, writes September 8, 1873:

Bees have done well here this season. I commenced with thirty stocks in the spring, sold six, and have now sixty-five colonies and thirty nucleuses. I have 100 pounds of comb honey, and 2,500 machine extracted.

H. Faul, Council Bluffs, Iowa, writes September 13, 1873:

Bees have not done very well here this season. Golden rod bloomed the 10th of August, but has produced no honey up to date. Three years ago I had a swarm which, on the 6th of September, filled its hive and two 10-pound boxes from the golden rod. I would like to hear from readers of the A. B. J. the cause of such failure this season.

P. W. McFatridge, Carthage, Ind., writes September 13, 1873:

I lost, last winter, 64 colonies of bees out of 108; bad honey I think was the cause. I have increased the balance to 70 colonies, and have 4,000 pounds of surplus honey, nearly all machine extracted. I use the two-story Langstroth hive. I wintered my bees in a second story, the room is about 16x18 inside, double walls 14 inches thick, filled with saw dust. The room is perfectly dark, and well-ventilated through floor and ceiling.

R. Dart, Ripon, Wis., writes Sept. 1, 1873:

I have to report to you the third poor year in succession, in this part of our State, for bees. Still, the few bee-keepers of us left are not discouraged yet, although we may have to import bees here from other States. I came to this State in 1840; only a year or two before that, the first swarms were seen passing over to the West by the Indians. My first start in bees was found in the woods by myself, when quite a small boy, in those early days. The honey-bee is too nearly connected with my early life in this country, when very new, to have me give them up so easily. While I live I shall keep them; their home shall be—in the summer—the coolest, pleasantest place in my yard, and, in the winter, my large, dry cellar. My bees came out of winter quarters last spring in fine condition, but the spring was cold and late, and the swarms were sadly reduced at the opening of summer. My losses were eleven from fifty-one. June, and part of July, were wet and we lost our white clover; part of July and August we were burnt up with drouth, but thanks to some early buckwheat, our swarms are going into winter quarters strong.

THERE are six substances made by the bees in a hive, viz: honey, propolis, wax, bee bread, royal jelly and cream. HUBER.

Patents Granted during the Year 1872, for Bee-Hives, Etc.

Invention or Discovery	Name of Patentee.	No.	Date.	Monthly Volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Bee-feeder	E. J. Peck	126,229	Apr. 30, 1872	.....	.....	1	418
Bee-hive	C. C. Aldrich	125,427	Apr. 9, "	.....	.....	1	339
"	H. Alley	128,005	June 18, "	.....	.....	1	616
"	W. B. Arndt	132,787	Nov. 5, "	67	21,22	2	532
"	D. J. Arnold	131,589	Sept. 24, "	594	188	2	373
"	C. W. Banks	131,730	Oct. 1, "	1	1	2	397
"	C. Beard	122,697	Jan. 16, "	.....	.....	1	53
"	J. M. Beebe	130,101	Aug. 6, "	3	1	2	201
"	P. Brown	131,247	Sept. 10, "	254	84	2	330
"	B. F. Bucklin	122,990	Jan. 23, "	.....	.....	1	79
"	A. Canniff	132,052	Oct. 8, "	293	95	2	429
"	W. R. Clark	133,355	Nov. 26, "	591	193	2	601
"	W. F. Cunningham	129,464	July 16, "	266	81	2	130
"	S. Fink	123,470	Feb. 6, "	.....	.....	1	131
"	J. W. Gladding	122,598	Jan. 9, "	.....	.....	1	37
"	F. Grabbe	131,610	Sept. 24, "	609	193	2	374
"	S. V. Greer	127,479	June 4, "	.....	.....	1	559
"	A. H. Hart	128,619	July 2, "	133	48	2	19
"	S. O. Higgason	126,055	Apr. 23, "	.....	.....	1	393
"	G. F. Hixson	131,613	Sept. 24, "	611	194	2	374
"	J. & W. H. Horsman	130,052	July 30, "	816	252	2	189
"	P. & A. Hurst	128,883	July 9, "	364	126	2	48
"	C. R. Isham	123,104	Jan. 30, "	.....	.....	1	102
"	H. A. King	131,168	Sept. 10, "	188	62	2	325
"	H. A. King	124,962	Mar. 26, "	.....	.....	1	289
"	D. Latchaw	123,632	Feb. 13, "	.....	.....	1	151
"	J. Longgrear & J. E Clark	130,511	Aug. 13, "	382	125	2	239
"	S. D. McLean	127,498	June 4, "	.....	.....	1	560
"	J. E. Moore	122,924	Jan. 23, "	.....	.....	1	76
"	A. R. Moulton	131,296	Sept 10, "	296	98	2	333
"	W. T. Mosher	130,932	Aug. 27, "	763	252	2	286
"	E. F. Mulkey & J. Case	130,933	Aug. 27, "	764	252	2	286
"	C. S Newsom	125,837	Apr. 16, "	.....	.....	1	372
"	S. E. Paine and W. Kerr	123,724	Feb. 13, "	.....	.....	1	156
"	P. O. Petersen	126,739	May 14, "	.....	.....	1	479
"	C. H Potter	127,513	June 4, "	.....	.....	1	561
"	W. H. Roberts	128,070	June 18, "	.....	.....	1	618
"	S. Rogers and A. J. Mason	131,628	Sept. 24, "	620	198	2	375
"	A. I. Root and M. Andrews	128,072	June 18, "	.....	.....	1	618
"	H. Scovell and J. C. Banker	131,632	Sept. 24, "	624	199	2	375
"	M. B. Shaw	127,991	June 18, "	.....	.....	1	615
"	H. Staggs	122,542	Jan. 9, "	.....	.....	1	35
"	J. G. Staunton	133,128	Nov. 19, "	381	123	2	574
"	J. B. Staunton	127,281	May 28, "	.....	.....	1	537
"	J. C. White	123,654	Feb. 13, "	.....	.....	1	152
"	J. Williams	126,605	May 7, "	.....	.....	1	457
"	H. K. Wilson	125,776	Apr. 16, "	.....	.....	1	369
Bee-hive, Comb-frame for	W. Kenyon	123,483	Feb. 6, "	.....	.....	1	132
Honey comb, Device for making artificial	J. Williams	134,411	Dec. 31, "	843	282	2	734

THE AMERICAN BEE JOURNAL.

Chicago, October, 1873.

Mr. R. M. Widdington is respectfully informed that if he wishes to bring the article he has for sale before the bee-keeping public, he must advertise it in that portion of the Journal which is devoted to such purposes. If we admitted communications offering bee-requisites for sale, and commending them, there would soon be little room in our columns for anything else, and besides, we should get no revenue from advertisements, which would be a great and ruinous calamity.

That Sting.

Our thanks are due, and are hereby tendered to all and sundry who have expressed kindly sympathy, and proffered effectual antidotes. We don't expect to be stung any more in the face or neck,—not if we know it.—and as for the rest of our person, we are quite indifferent about its safety.

Some of our friends have rallied us with jibe and joke. All right. It may be a laughing matter now, but it wasn't at the time of it. We have had our share of experiences that have left painful memories, and, among the physical ones, that bee-sting holds the first place.

We hardly know what to say to those of our friends who have raked up stories of serious and fatal bee-stings,—but we will say this much, *quantum suff.* Do not send any more, unless you want to frighten us, not only out of the bee business, but out of our wits. And please excuse us, if we consign most of them to the waste paper basket.

Live Bees at Fairs.

A brother bee-keeper, now at Elbon, suggests that we say something Editorially in reference to the practice of bringing hives of bees to State and other Fairs, and letting them loose among the visitors. He says that on a recent occasion of this kind, where he was present, there were three stocks of bees opened out very much to the annoyance of thousands of people. He does not know if any one was stung, but the bees were buzzing about in all directions, and especially hovered around the refreshment stands, alighting in large numbers upon the watermelons and other fruits, and attacking the candies and confectionery.

We entirely agree with our friend. There is no necessity for subjecting visitors at Fairs to this insect annoyance. The day is gone by for money-making by means of bee-charming and other styles of apiarian charlatanry. It is pretty generally understood, that bees can be handled by taking certain precautions. The person who has not become aware of this fact, must live in some benighted region where there are neither newspapers nor bees, and is not likely to be converted into an apiarian by such exhibitions. The merits of a hive can be shown sufficiently without having live bees in it. So many people are nervous with bees buzzing around them that a due regard to the rights of others would seem to dictate avoidance of this thing. If it is wished to show the public the interior economy of the hive, with queen, worker, drone and brood, this can be done with a unicomb hive, having glass sides, to much better advantage than by opening out an ordinary hive.

Since our terrible sting, chronicled in these columns, we have been quite inclined to restrict bees from power to injure, as much as is consistent with honey-gathering. We don't see that they have any particular call to attend Fairs. They are better at home. Let them, as the good book says, study to be quiet and mind their own business, going abroad only when duty calls. A word to the wise is sufficient. There are ways enough of giving publicity to bee-wares, without resorting to the method under consideration. We wonder that before now some unlucky accident has not happened, such as might excite public prejudice against bee-keeping and bee-keepers. Lest it should, it is well to leave the honey-workers at home, when the rest of the family go holiday hunting.

A weak swarm will weigh from one to two pounds; a middling one from three to four pounds; a good one about five pounds, and an excellent one from six to eight pounds.

Huish.

Robert O'Conner.

Mr. Robert O'Conner, well-known to many of the subscribers of the A. B. Journal, who, during the past few years, visited Washington, D. C., died on the 17th of August, at San Barnadino, Cal., whither last January he went in the vain hope that the salubrious climate of that locality would restore his shattered health. His hopes were vain. Mr. O'Conner fell just when starting out on what appeared to be a most promising career as an apiarian. Possessing a well-disciplined and richly stored mind, united with great mechanical genius, his friends hoped much from his enthusiasm in bee-culture. His inventions and suggestions were rich indications of what he would have accomplished in this particular and interesting branch of industry, had he been spared to carry out his well-arranged plans for giving his undivided attention to bee-culture. But Providence willed otherwise. Away from family and friends, a stranger in a strange land, his profound knowledge of bee-culture soon gained him warm and sympathizing friends. The pain and depression caused by the inroads of his disease, neither dampened his ardor nor lessened his interest in bee-culture. One of the last of his acts on earth was to send to friends in the East a model of various improvements he had, during the past summer, invented in the structure of the hive. In him bee-culture has lost a warm and unbiased advocate, the A. B. Journal an ardent supporter, and his acquaintances a kind and trusted friend.

George S. Wagner.

[For the American Bee Journal.]

Report of Apiary.

I had May 23—the real opening of the honey season—eighty-nine colonies of bees of all grades, some fine, some fair, and some small. You will see by this that I do not take brood from a good stock to build up a poor one; but let each stock stand on its own merits, giving it, of course, all necessary care—without resorting, however, to what is termed stimulating feed. In this statement I shall not give my reasons for not equalizing, as termed, or stimulating, as generally practiced. No one will presume that I do not do what I think the most advisable, as I am not an enthusiast, and never try experiments for experiments' sake. My management is old, and mainly the slow accumulation of facts gained from others, and cheaply woven into a plan so unlike others as really to be quite my own.

As above stated, I had, January 1, eighty-nine colonies. These were increased from June 10 to twenty—on a plan all my own, which I call the "Bingham plan." I will give my plan of increase, which will be just as important to those using different hives and the extractor.

When my first natural swarm issues, the queen is caged and returned to the hive, when, of course, the bees soon return; the cover of the hive is now removed and I begin the making of artificial swarms—selecting medium stocks for the purpose only. A hive entirely empty is set in the place of a fair-sized colony, and all the bees of said colony shook into it. The brood and combs, now beeless, are set on the hive having the swarm that issued and was returned. This course is continued until as many hives are piled one above the other as said prime swarm can thinly cover. You will understand that no bottom-boards or covers are used in the pile, except the prime swarm at the bottom, which stands on its *own bottom*, and the last or top hive has on its cover, or a mat as desired. In this way my pile varies from seven to ten hives, as the size of said prime swarm may vary.

"The Bingham Pile," as I shall presume to call it, is allowed to stand for a few hours, if in the morning; or over night, if formed late in the afternoon, until the bees are evenly distributed through all the combs. The next move in order is the removing of said pile, each hive of which is to be put where it is designed to stand the remainder of the season. The moving is to be done carefully and without smoke, as great care must be taken not to frighten the bees so as to disturb their even distribution in the various hives.

As we now have nine queenless hives, containing bees ready to work in every department of commune labor, we can do something for them all; that will be what so many have written about, namely: "improving the breed." Our prime swarm has presumedly the best queen in the ranch, and her hive has lots of queen cells in various stages of development; therefore I give each queenless hive a cell, sealed if I have it, or half done, or nicely started, as the case may be, but give them all a cell—as all those cells that have been shook much will not mature queens. Having removed all the cells, said best queen is uncaged and allowed her own way. If the season continues she will be ready to work over in about four weeks, at which time she will be likely to to swarm.

Peace now reigns; the bees have all had their swarm out, and are ready for work; all of which, however, is in their domestic capacity —that is, combs are to be made in empty hives, and brood and queen hatched in those having

combs. I use boxes, and my bees stored over 6,000 pounds of honey in them this season, which is all sold. I now have 181 perfect colonies, 92 of which have made their own combs; each card can be turned end for end, and the hive closed up.

T. F. Bingham.

Allegan, Mich., Sept. 22, 1873.

[For the American Bee Journal.]

Chips from Sweet Home.

As we receive the Journal and read its contents, we mark with a blue lead-pencil all new ideas. I take three bee journals. "Novice's" gleanings are pretty thoroughly marked. This has been a poor honey season in this locality. Owing to the drouth white clover failed; then, just as the Linn came in bloom it turned cold and wet, and continued so till Linn honey was gone. Since July 7 we have had no rain, but one shower, up to the present writing, (September 11), over two months; this last drouth has cut short our fall pasturage which usually continues till frost.

RAISING QUEENS.

We, as usual, have been experimenting, and think we too have learned some things and will try to help, whether we do or not. When examining our hives we find which has the most good qualities. As for color of queen we care but little, but we wish her to be *pure*, prolific and peaceable. We make a new colony, giving the queen and a sufficient number of bees to it, which we leave in the place of the old one; this plan is the nearest to natural swarming. The old stand we move to a new location, being careful not to rob the parent hive of too many bees, as they have all the brood to keep warm and nurse. We never divide, unless strong enough to make two. On the ninth day we cut out all queen cells but one. A pen-knife is the best for this purpose; be careful to not chill or sun-burn them. When two or more are so closely connected that there is not space to cut between, we put such clusters in one edge of the nursery, and by close watching we usually get the first out before she has time to kill the others. "Novice," in his *Gleanings*, says that cutting in a cell does not affect the young queen if she be developed sufficiently. A Langstroth frame will make thirty-two cages by cutting the horizontal pieces thin and full length, the upright pieces ½ inch thick and 1¼ inches wide. Linn is the best as it does not split easy. Cover one side with wire cloth, and on the opposite put tin doors, 1⅞ by 2 inches; fasten with small wire staples, driving them in two doors at once, which economizes the room; punch small holes for them; to fasten down take a piece of wire, bend at right angles and drive in. The cells can be pinned in the cages, also a small piece of sponge saturated with honey. We formerly thought it best to not introduce a queen till she was three or four days old, as it kept the hive a less length of time without a laying queen; but we now, for *safety*, introduce them as *young as possible*, and have much better success. We think it unnecessary in such cases to daub with honey, royal jelly or other scents We kept a laying queen in the hive with the nursery, but found too many dead queens. Since then we made a hive on purpose, by putting in two thin division-boards, so as to have room on each side for two frames; these we can use for fertilizing, and find it well to keep in reserve laying queens. One of these has an entrance behind, the other at the side; the centre has room for the nursery and four frames, and the entrance at the front. In this we raise queen cells, by giving them cards from our *best* hive, and in scarcity of honey a lot of choice drones; being queenless they will not destroy them. We are trying to winter reserve queens in these neuclei. Next year we think of trying our nursery, laid on top of the frames, as per Novice A few days after introducing a queen we look for her and make a note in our bee-register, "saw queen." "laying," "missing," as the case may be; if the latter we give them a card of brood from a choice queen, and if the young queen is gone they will let us know, when we next examine, by having choice queen cells for our nursery.

Mr. Editor, we think you done just right in rutting in Simeon Plicity's article on "Simplicity bees," etc; for "a joke, now and then, is pelished by the wisest men."

We hope Adam Grimm will tell us about his bee-feeder, smoker, getting bees out of boxes, introducing queens, etc.

W. J. Ronald's article on wintering bees is just such as we have found, by general inquiry, to be a preventative of that dreaded bee-disease. His second requirement, "The bees should be put into winter quarters *early*, or on the first cold day," is one which has saved many bees that we know of.

We keep our bee journals bound, so as to have them for ready reference, and find them as valuable as any bee-books.

SAMSON'S LION.

The Editor has rightly concluded, that the skull was too small, but gives "a better explanation," which is as unlikely as R. M. Argo's explanation. "In a secluded spot among the grapevines," would be a poor, damp place "to deprive the bones and skin of their moisture by the heat of the sun," before decomposition would set in. Judges 14:8: "There was a swarm of bees and honey in the *carcass* of the lion." Webster defines carcass: The *dead body* of an animal; a corpse. Now if all the flesh and entrails were gone the *dead body* would not be there. Why should we try to believe Samson's

lion story; water coming out of a dry jaw-bone, any sooner than we would the stories of Mahommed cutting the moon in two, or that a stream of water came from between his fingers?

We are now getting our bees ready to try another winter; shall follow out W. J. Ronald's directions.

D. D. Palmer.

Eliza, Mercer Co., Ill., Sept. 11, 1873.

[For the American Bee Journal.]

Adair. (Reply to)

Our friend, Mr. Adair, in reply to our answer on the importation of bees, says that his illchosen term, indiscriminate," applies only to large importations. Why large importations of bees would be more indiscriminate than small ones, I am unable to comprehend.

The queens imported into this country were at first mostly from Germany; then from Switzerland; then from Syrol and Italy. As the importers knew neither the bees nor the breeders, it seems to me that these small importations were more "indiscriminate" than a large one from the best known districts of Italy.

Mr. Adair says that he is not yet ready to discuss the evils of in and in breeding on bees; let us wait until he is ready.

To prove that the importation of queens can be injurious, Mr. A. shows that it is through the importation of bees to America, that we have imported bee-moth and foul-brood. It is true that if we had never imported bees in this country, neither bee-moth nor foul-brood would have made their appearance, since bees did not exist here before the discovery of America.

The denouncement of the ravages of the bee-moth, is of no avail, since every true bee-keeper knows that it has never "killed" a colony of bees. As to foul-brood, the European apiarians claim that this disease was introduced in their apiaries by Cuba honey given as food to the bees.

Mr. A. insinuates that perhaps what is called the bee-cholera of the past two years (if such a thing exists,) came from the importation of Italian bees.

He knows, however, as well as I do, that such a disease has never existed in Europe. How is it possible to bring a disease from a country where it has never existed.

He speaks at length on the awful misfortune of importing from Europe such insects as melve, braula ceeca, phora incrassata, sitaris, &c, &c., &c.; but the truth is that these parasites are very rare in Europe, and that not even the two most dreadful of these "braula ceeca and melve" have ever been known to destroy a single stock; furthermore, it is questionable whether they have ever killed a single bee.—Much ado about nothing.

Some bee-keepers may think that I am grinding my ax. But my ax is sharp and does not need grinding. Every year I have more orders for bees than I can fill, and I have to refuse orders for imported queens and often to refund the money. Besides we, (my son and myself) have never asked one cent for the publication of our old or "*new*" ideas. For instance every year we have sent Mr. Adair some articles for his Annals, and we have never taken advantage of his offer to insert out advertisements in his pamphlet. The past month, Mr. Adair wrote to my son asking him for two articles, for the Annals of 1873, adding that one might be—"on the Italian bee, if you desire"—and our ax needs so little grinding that we did not improve the opportunity, and my son announced to Mr. Adair that he would send him two articles entitled: "Bee Culture in 1976," and "Historical notice on Bee Culture in France."

Friend Novice will see, by the above, that if we are in a combat, against Mr. Adair, on the stage, we are still friends behind the curtain.

Mr. Adair had the right to criticise our importations, as well as we had the right to show that his ideas on Italian bees are different from what they were two or three years ago when he advertised Italian bees for sale. He has reported a gossip on our business, we have reported one on his: we are quit.

Ch. Dadant,

Hamilton Ill. Sept. 10, 1873.

[For the American Bee Journal.]

Sending Queens by Mail.

In sending queens by mail, I find that a piece of candy and a piece of sponge, moistened with water, answer as well as honey. I prefer the large, round, flat mottoes, as they are easily fastened in the boxes, so that they cannot move about and hurt the queens. I have sent a number of queens in this way, and have not lost a single one. I have kept bees for weeks on candy, in the cellar in the winter, and they done well on it; and I can see no reason why they should not do equally as well on it while passing through the mails. James Bolin.

West Lodi, Ohio,

Honey Markets.

CHICAGO.

Choice white comb honey, 28@30c; fair to good, 24@28c.

Extracted, choice white, 14@16c; fair to good, 10@12c. Strained, 8@10c.

CALIFORNIA.

Quotations from Stearns & Smith, 423 Front street, between Washington and Clay, San Francisco, Cal.:

Strained, choice orange blossom honey, from Los Angelos, in 5-gallon cans, 15@16c.

Valley honey, gathered from manna or honey dew, 12@14c.

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[Translated from the Bienenzeitung.]

The Exhibition at Simmening.

I.

On the 1st of August our International Exhibition of stocks of live bees was opened at Simmening in the suburbs of Vienna, where we had been granted the use of the new school house and school garden. We all met in the public gardens of Herr Kleinle, and forming into a procession, the firemen with music leading off, then the Turners with flags, and last the guests, we marched to the Exhibition grounds. The arrangements were made under the direction of the Counselor of the Agricultural Bureau, Herr von Marenzeller, who was also present in the procession. In the great hall of the school the assembly was heartily welcomed by Dr. Seidler, as head of the school council of that district. Whereupon the Vice President of the Association, Dr. Vincent Heller, made the following reply:

Honored Assembly: Since the honor of opening this, the first International Beekeepers' Exhibition has fallen upon me, suffer me to make a few introductory remarks. Already in ancient times, so far back as history or tradition reaches, has that little and comparatively insignificant insect, the Honey Bee, attracted the attention of man. At first that man sought for the honey and wax of the wild swarms of bees in the hollow trunks of trees and clefts of the rocks, and used these rich products on the one hand for the benefit of mankind, and on the other as an offering to the gods. Soon, however, these wild swarms of bees were cherished near the house and kept in the hollow limbs of trees, until gradually not only individual swarms lost their wildness, but the whole race threw off their state of wildness and became one of the most loved of domestic animals. As all wild animals become more and more accustomed so the presence of man, so the bee gave up the greatest portion of her wildness, and to-day uses in a very modified way her unpleasant sting.

In the lapse of time honey and wax became almost indispensable to mankind, and thus the beekeepers became a separate, much-honored guild. This was the blooming of bee culture in the middle ages, where the German Zeidlergesellschaft, especially, in Nuremberg, had a very high reputation.

As human industries are always advancing toward perfection, as the natural philosopher and the gold-seeking alchemist, although finding no gold in their retorts, yet accomplished a great good in developing the science of chemistry, so for the pure products of nature, wax and honey, many substitutes have been invented, which although being inferior as to quality, have the advantage of being cheaper in price. For the wax candle has been substituted first the tallow, then the stearin candle; for honey we have the juice of plants and the finest sugar of our own times.

What was more natural than that these all caused a hindrance to bee culture, which worked itself more and more to the front, until everywhere bee culture was slighted, except by a few persons—priests in the temple of nature and agriculture, among them many priests of God of all confessions of faith. Much as chemistry and through it the practical arts have been able to accomplish in all parts of the world, they have not been able to show a drop of honey or a particle of wax that will at all compare with that produced by the bee. Wander through the world's exposition, the largest the world has yet seen, and you will be convinced of the truth of my words.

Honey and wax happily still command a fair price, which yields to beekeeping a fair profit, and places it in a high rank of national economic value, as every one living in the country, or near the same, or in towns rich in gardens, can cultivate the same.

In the middle of the present century beekeeping began to raise its head more and more, and it was granted to those priests in the temple of nature and science, especially Pastor Dzierzon, of Carlmarkt, in Prussian Silesia, Prof. Dr. von Siebold, of Munich, and Baron von Berlepsch, continually to furnish us with more advanced discoveries upon which it was possible to base a rational system of bee culture, from

which most wonderful results have already come and may yet come. Already there are many who either support themselves and their families entirely from the profits of beekeeping, as Dathe, Gunther, &c., or to whom the income derived from their bees is a welcome addition to their otherwise small income.

Let bee culture again flourish so that every one having the disposition may pursue it, and then the hundreds of thousands of tons of honey and wax produced in the plant world will not be wasted, as is now the case; nor will there be those large sums of money sent out of the country for the purchase of these products, but it will remain in the land, when honey and wax becomes a paying commodity in trade; then will the ever advancing, never resting technical chemistry and arts, find many now unknown uses for these products. Hence it appears to me to be of the greatest importance, both by word and writing, to advance bee culture, by the reasonable employment of associations—that words of destiny in the present century—through beekeeper's associations in every land, and the uprooting of the many prejudices still existing against beekeeping.

For the purpose of carrying out such an object as this, our association has made the experiment of calling into life the first International Bee Exposition. Whither and how far this humble attempt has succeeded, you will be the best judges. You must, however, make due allowance for the difficulties that we have had to overcome, and the brief space of time we have had in which to accomplish our work; since only after the failure of our last attempt to have living stocks of bees exhibited at the World's Exposition, did we arrive at the conclusion to hold this Exposition, and the time of opening fell very near to that of the opening of the World's fair at Vienna.

May this be a good sign of the success of bee culture both here and elsewhere, that this exhibition is held in the rooms of a building dedicated to a new school, for every advance, to be permanent, must come out of the school.

Receive, honored citizens of the town and school of Simmering, from me. from our Beekeepers' Union, and from all the beekeepers of this and foreign lands, our heartfelt thanks, for your voluntary offering and hospitality.

And to you, my beloved children, to whom the future belongs, to you, of whom our Saviour always spoke in the most loving terms, to you especially the school belongs, and for you it was built. Learn, alongside of your school tasks, in your hours free from study, the life and habits of the honey bee; thoughtfully observe them as they fly from flower to flower, and follow the good example taught by these little insects. Gather, industriously, in the bright spring days of your youth, against your later days of autumn and winter, the honey and wax of knowledge. Learn, above all, from the bee, that good concord, and peace and obedience they show to their mother.

Obey thus your parents, teachers and superiors. And when you have grown to manhood, obey the laws of the land, like the bees obey their laws, love the king and the fatherland as the bees do their mother, and when threatened with danger fight in their defense as the bees do.

Gentlemen, in closing allow me to remind you of a quotation from the Roman poet, Virgil, which is the motto of our Association:

"*Rege incolume mens omnibus una est.*"

What the poet here says of the population of the hive, applies to every association, and especially to the state.

Let us wish for the success of those great laws of modern times, which have instilled a new life into our beloved fatherland, let us offer an earnest prayer for the well being and success of his Majesty, the Emperor, and the Empress—the honored protectoress of our union."

Then Herr Gatter explained more particularly the objects exhibited in the Turner Hall, and trials were made of the various honey-emptying machines. Then the bee swarms placed in the garden were carefully examined. At the close of the exercises the younger scholars sang the national song, followed by music from the bands.

The evening was spent at Herr Kleinle's gardens, where regular and impromptu toasts were offered. Among the latter the most marked was the interesting and witty speech of Herr Vogle. Baron Schwartz, Director of the Exposition at Vienna, excused his absence, owing to the sitting of the juries at Vienna. X. Y.

FOUL BROOD.

The following letter was received by the Editor from Herr Kaucke, of Waltinghausen, with the request that it be published.

EILVESE, NEUSTADT, June 6, 1873.

HONORED MR. KAUCKE: You may remember that I came to you last year at Easter. I was then in great trouble, as my bees were suffering from foul brood. My 27 stocks were penetrated through and through with the dread disease, so that I tore out and buried the interior of two of them. You gave me, without pay, your remedy for foul brood. and also the necessary instructions for making and applying it. You told me I should cut away all of the interior to three combs and not to be afraid of the French brandy. It was now: "bird eat or die." I had an apothecary in Neustadt prepare the recipe for me, and on the fourth evening afterward began using the cure, and in ten days procured more. Sometime afterward my bees swarmed so well that my stocks increased from 27 stocks to 60. Last autumn my bees were fully cured. In a single weak stock there were

to be found in the lower cells some diseased larvæ left over from last year, but in the brood nest all was healthy. I used this remedy again this spring.

Now I must fulfill my promise to inform you of the result. My bees are cured. I give you my lasting thanks therefor.

HEINRICH DANNENBERG, Apiarian.

This is to certify that the Apiarian, Dannenberg, is a truthful person, and that the above declarations are worthy of all credit.

L. S. BORMAN,
President of the Corporation.

Eilvese, June 6, 1873.

The following is the remedy discovered some years ago by Herr Kaucke, and used with much success by Mr. Dannenberg:

For preparing food for forty stocks you take
1 Ggr. Assafœtida - - - - 6 lbs. Alum,
" Long Peppers - - - " Cress seed,
" Camphor - - 6 lbs. Brown mustard,
" Devils-bit,
" Nutmeg,
" Guinea grains.

These nine ingredients are pulverized in a mortar, and are put into a clean flask with one quart of French brandy. With occasional shakings this is left standing for twenty-four hours, when the half of it should be poured into honey, unmixed with water, and fed to the bees. One evening is allowed to pass, and on the third evening the remaining portion is fed in the same manner as the former. On the evening before the first feeding, and one the evening between the two feedings, pure honey, free from water, should be fed to the bees. The feeding should take place at the time of the blossoming of the pear trees, when the bees are building drone comb. Care should also be taken that the vessel containing the food should be well covered with straw, cut about two inches long, otherwise the bees stupified by the fumes of the brandy, would fall into the dish and be drowned.

[For the American Bee Journal.]

Wintering Bees.

It is a long time since I have written for the JOURNAL, but I have read it as attentively as ever. Since my return from New Jersey I have not felt permanently located and have not again gone to keeping bees exclusively, though I am keeping a few, having seventeen swarms now.

There is one little point of considerable value in wintering bees which was brought to my notice some twelve years ago, in connection with Torrey's Maine State Bee Hive. The bottom-board of his hive had cleats nailed to the under side in such a way that it might be turned over during the winter and the hive allowed to rest on the cleats, giving the bees an empty space of two inches under the combs. This, it was claimed, allowed the dead bees and filth of all kinds to fall clear of the combs, keeping them much cleaner, drier, and more free from mould, besides ventilating them better. I found it a very great advantage, as such swarms almost invariably wintered better than those having the combs close to the bottom board. Every one who has wintered swarms in hives only part full of comb has most likely observed that such swarms usually winter better than those in hives full of combs, which I account for in the same way. I have sometimes made frames two or three inches high, just large enough to set my hives on for this same purpose. For hives with bottoms fastened on and open movable frames, of course, a narrow section might easily be attached to the top of the hive by the ingenious beekeeper, to be used only in winter and for the same purpose. Kidder's double hive gives this empty space, though as it is the same during the summer it is sometime partially filled with comb which must be broken off after the season's work is done. I propose sometime to tell you how I got foul brood and how I got rid of it.

J. L. HUBBARD.

W. Chesterfield, N. H., Oct. 1873.

Bees Swarming.

A sure way to prevent bees from going to the woods when they come out and alight, is to get a pail half full of cold water from the well; take a broom brush and dip it in the water, and throw it up over the bees, and it will come down on them like fine rain, then hive them in the usual way, and sprinkle them while going in, and sprinkle the ground around the hive, to cool the air; in fifteen or twenty minutes do it again, and continue it until the day is cooler; keep the hive in the shade. There is no need of having any bees go to the woods—not at all. I had over forty swarms last summer, and saved all by sprinkling them.

"But," says one, "my bees go to the woods without alighting." I don't dispute it in the least; but during the thirty-five years that I have kept bees, I have never had a swarm come out and go to the woods without alighting first; and I am safe in saying that I have hived a thousand swarms. Bees sometimes come out undiscovered, and after a while start for the woods, and are seen on the second start.—*Rural New Yorker.*

For centuries Italian bees, described by Aristotle and Virgil, were supposed to be a myth, until discovered during the wars of Napoleon by Captain Baldenstein, who carried a colony across the Alps to Switzerland, in 1843, In 1853 they were introduced into Germany by Dzierzon, and into the United States in 1860.

[For the American Bee Journal.]

The Adair New Idea Section Bee Hive vs. Old Fogyism and Empiricism.

Although Mr. Adair does not seem to relish criticism in regard to his hive, it strikes me that it does not deserve much praise. But let us discuss its merits.

First, what is the Section Bee Hive? It is a box containing a hive formed by close fitting frames or sections. It is the "Huber Leaf Hive" with this difference, that the frames or sections project one over another at the top and bottom. These hives look well when empty and new, but let us consider their management when occupied by bees.

To open the hive and visit it, you must remove the box from the hive by sliding it out on a board; then you must remove the wires that hold the sections together. If it is a newly hived colony, you must be very careful, for as soon as the wires are removed, the sections come apart and fall on each side, breaking the glasses of the ends. If, however, there is enough of propolis the sections will remain together until you pry them off with a chisel. Take off the first section, there,—place it against this tree—take off the next—here comes a lot of young bees falling on the ground—let some one hold that section—take off the third. If you are looking for the queen, you may have to take them all of—but what are you going to do with your sections? You cannot set them in any place, for there are bees under and around them. You cannot hang them in any place, for they have no projecting ends. Now let us close it. Bring me a section—brush the bees from under it, brush them from the sides, at the top—now at the bottom, bring them together—look out, you are crushing bees on this side—hadn't you better brush them all out! Now fasten them together with the wire—look out, there is a section out of place—push it back—there, now we are ready to put the hive back in the box. Lo! what a quantity of bees in that box!—they are running all over it—brush them out—now push the hive in. Well, if we did not crush more than a pint of bees we are quite lucky.

O! beekeepers, disciples of Langstroth; you who use the Langstroth pattern, the Quinby hive, the Thomas hive, the American hive, the Triumph hive, you old fogies, you empirics, such is the Adair Section Bee Hive. Compare it with yours.

If anybody has used the section hive and finds it of easy management, let him come forward and explain to us the proper way of handling it.

But here comes an improvement, the "New Idea." What is that? If I understand it right, the "New Idea" is a hive containing four thousand cubic inches or more in the brood chamber, with an entrance in the side instead of in the front. Is that all?

Mr. Adair, I beg your pardon, but if that be the New Idea, then "old fogies" have new ideas also, for Messrs. W. H. Githens, John Wheeler and Ch. Dadant, in Hamilton, and J. D. Kruschke, in Berlin, Wis., have been trying and using hives containing four thousand cubic inches for the last six years, and they have all come to the conclusion that they were *too large.*

What advantages do you claim for your "New Idea Section"? That it is the only non-swarming hive ever constructed! But does not Gallup acknowledge that out of twenty-two non-swarming hives that he had, three cast swarms this season. Does it prevent drone raising? How? Does it produce more bees than ours? Not more than a hive of 2,000 cubic inches, for no queen can occupy more than 80,000 to 85,000 inches of brood at one time. It is very well to speak about prolific queens, but we must bear in mind that a queen that will lay 4,000 eggs in one day, is doing an extraordinary business. The best queens that I ever saw occupied about 3,500 cells in one day. Such queens are scarce, however.

I think that Mr. Adair claims that his hive will bring more honey, because bees will work easier in the sides of the hive than in the top. I do not know what Mr. A.'s experience is in side boxes; but I can say that in my father's apiary, out of sixty hives containing both side and top boxes, not separated from the brood chamber by any partitions, not one colony was found that worked in the side boxes half as well as in the top boxes.

Mr. A. also says that the "Extractor has been overrated," that "If beekeeping is to be made a success, it will not be accomplished by the use of the Honey Emptying Machine." Mr. A. is prompt in changing his mind, for in the previous year he said, speaking of the same machine: "This is one of the most important apicultural inventions made in a number of years. It enables the beekeeper to realize more than double the quantity of honey he did without it. Every beekeeper should have it. If he has only two or three stocks, the surplus honey obtained by its use, &c....will pay for the apparatus in a single season." (Outlines of Bee Culture.)

Now, sir, what is it that you offer to sell for the low sum of $10? Is it the improvement of the old Huber hive under the name of Section hive? Is it the New Idea (?) of making a hive containing 4,000 cubic inches, or more? Or is it the side entrance, or is it a combination of these three?

We old fogies and empirics are very much in the dark about all these things, and would like a little more light on the subject from your inventive experience.

C. P. DADANT.

Hamilton, Ill., Oct. 8, 1873.

[For the American Bee Journal.]

Kansas State Beekeeper's Association.

The annual meeting of this association was held at Topeka, on the 24th and 25th of September, during the State Fair.

The President being absent, the association was called to order by the Secretary, N. Cameron, and on motion Hon. M. A. O'Neill was elected temporary President.

The Secretary then read a portion of the proceedings of the last two meetings of the association, showing that the time of the annual meeting had been changed from January to the time of the State Fair. He also stated that the former Secretary had never turned over to him the constitution of the association, and he had left the country, so that we were without a constitution.

On motion the following committee were appointed to draft a constitution, to be submitted at the next session: Judge Guthrie, G. F. Merriam and N. Cameron.

An essay was then read by the Secretary, entitled "A Few Facts about Bees," after which there was an animated discussion on the topics suggested by the essay.

Mr. Meador objected to the use of the word fertilization, as often used by apiculturists to express the copulation of the queen and drone; he stating that queens were fertile without meeting the male bee, and that many workers were also fertile that never had connection with the drone; he claiming that they were fertilized by the food they received, and were capable of laying eggs that would produce a progeny, which, however, would be all males without impregnation, after which all the eggs produce females: and that the male bees were generally produced by eggs from the worker bee that was fed for the purpose.

Mr. O. Badders gave us the result of an experiment which may lead to a new discovery of no small importance. He removed a dozen or more eggs from worker cells to drone cells, and at the same time removed the queen from the hive, and all the eggs thus removed hatched perfect drones as far as the eye could detect. No other solution could be given to this experiment than that the bees removed the spermatozoa that changes their character from male to female, after they had been placed in the drone cells. If this should prove true, on further experiment and investigation, it will be a discovery in apicultural science.

Mr. Stiles wanted to know if there was more than one kind of drones, as he understood that drones were produced by fertile workers and the queen.

He was answered that drones were all alike perfect drones, however produced.

A question was then proposed, whether wax could be fed to bees so as to have them use it in building comb?

Mr. Badders had fed wax (according to the Adair theory) melted and worked in honey, so that the wax would be in minute particles, and his bees built comb very rapidly from it.

Mr. Meador thought there was little gain from feeding wax. They would use the honey mixed with it and build some comb, but most of the wax they would carry out of the hive.

A question was then asked, why a queen was different from the worker bee? Some claimed that it was on account of the worker cell being too small to allow the development of a perfect female. Others thought it was more owing to the food in quality and amount. An instance was given where small and worthless queens were produced in queen cells, on account of a scant supply of food; and that it required both the larger cell to admit of perfect development, and the proper food, in quality and amount, to produce it.

Mr. Meador proposed the following question for discussion to-morrow evening: Why does Apiculture attract so little attention as a branch of husbandry? which was accepted by consent.

H. Cameron offered the following resolution, which was adopted:

Resolved, That a committee of three be appointed, whose duty it shall be to press upon the State Board of Agriculture the importance of encouraging Apiculture by more liberal awards.

Gen. H. Cameron, Dr. L. J. Dallas and G. F. Merriam were appointed said committee.

SECOND SESSION.

Wednesday Evening—Hon. M. A. O'Neil in the chair.

The committee on constitution not being ready to report, the President read a very interesting paper on Bee Culture; after which the committee on constitution reported, which report was amended and adopted.

The following names were received as members of the association:

Noah Cameron, G. F. Merriam, Hugh Cameron, R. C. Callihan, O. Badders, D. E. Bowman, H. A. Stiles, J. V. Randolph, James D. Meador, J. M. Miller, James H. Pheanis, G. W. Skinner, S. M. Weymoth, W. H. Weymoth, S. J. Miller, C. W. Stokes, E. D. Van Winkle, M. A. O'Neil, F. J. Farr.

The following officers were then elected to serve one year:

President—Hon. M. A. O'Neil, of Black Jack.

Vice President—Capt. James D. Meador, of Independence, Mo.

Secretary—N. Cameron, of Lawrence.

Corresponding Secretary—O. Badders, of Leavenworth.

Mr. Meador offered the following resolution:

Resolved, That we regard the action of the Postmaster General in ruling that bees are not mailable matter, as an unlawful interference with our rights.

The resolution, after some discussion, was unanimously adopted, Mr. Skinner giving the most pertinent reason for the Postmaster General's action in the matter. He said that some postmasters had mistook packages of bees for money, had opened them and got stung, and then complained to the Postmaster General, that bees sent through the mails were getting out and stinging the postmasters, and hence the ruling. The Secretary stated that packages of bees sealed up, with letter postage on them, postmasters had no business to know what was in them or to open them any more than they had to open our private letters or money packages, and that it was as much a criminal offense to open one as the other.

The question presented by Mr. Meador was then taken up. Why does apiculture attract so little attention as a branch of husbandry? The President spoke on this question at some length. He thought that owing to many failures arising from want of a more thorough knowledge of the business, many were discouraged. That a practical knowledge of the business was necessary to insure success. Mr. Skinner said that one reason why this important branch of husbandry lagged was from the fact that our agricultural societies were too much absorbed in shows, gambling, horse racing, etc., to give any encouragement to any useful industry. Mr. Callahan and Mr. Miller thought there were only a few localities where beekeeping could be made profitable on account of a scarcity of bee pasture or honey plants. Gen. H. Cameron said that apiculture attracts little or no attention at our State fairs and from the thoughtless public, for various reasons: All the wealth-producing industries are, or at least have been, pushed into the background by certain practices, fashions and customs which contribute nothing to the wealth, morals, or true civilization of the State. This is chiefly owing to our own indifference and the thoughtlessness and infidelity of our educators. The interests of the wealth-producers of the State are not made so prominent as the interests of sporting men, because we do not own nor control the newspaper press of the State. Papers started to advocate exclusively the rights of the individual classes are not sustained as they should be, and many of them are permitted to die. This is the basic evil or parent of all the ills we complain of. If the industrial classes will organize thoroughly, and properly inform themselves on all matters which vitally affect their prosperity and welfare, American civilization will be greatly improved and citizenship more highly respected, Republican institutions will range higher than they now do, at home and abroad, and the advocates of industry and honesty will be able to hold the first place in the United States as easily as the advocates and friends of loaferism and idleness hold it at the present time. Workingmen and women would be infinitely better off if they would spend one-half their time in the business of saving what they produce. Mr. Cameron closed his remarks by calling attention to the novelty of apiculture as an additional reason why it did not take its appropriate rank among the useful industries of the country.

Mr. Meador said he introduced this question because it was an important subject, and he would give his views in a few words. Up to the time of the discovery of the movable frame beekeeping could not take a forward rank among the industries, on account of the difficulty of management. When the movable frame was discovered and apiculture began to prosper, unprincipled men took advantage of the situation and flooded the country with worthless patents, a vender of which could be found in every town, and unsuspecting people were swindled to such an extent that they became disgusted with the business. He said no other stock would bring such a large return as bees, with so little labor. If our bees required constant attention, he thought there would be more success. He believed that it was an easy matter for the beekeeper to realize 100 per cent. from his bees, while no other stock would do half as well. He had a hive this season worth $15, which with its increase and surplus honey was now worth $100.

The Secretary thought that many who attempted to keep bees calculated that they would take care of themselves; that they either lacked the disposition or the ability to give them that attention that is absolutely necessary to success.

N. CAMERON,
State Secretary Beekeeper's Association.

[For the American Bee Journal.]

Bee Notes—Agassiz Criticised.

A lecture upon bees by Prof. Agassiz has been reported in some of the papers, in which he tells a good deal that is valuable, and what I know to be true, some things that may be true, though I have never been able to verify them, and some things, if he is reported correctly, which I know to be false. This I very much regret. I would not willingly shake the confidence in so eminent a man, but allegiance to the truth certainly ought to stand before allegiance to men.

I will notice a few points in the report of the lecture as given in the New York *Tribune*, *Scientific American*, *Rural New Yorker*, and other papers. Agassiz is reported as saying: "When a swarm breaks off from an old community to form a new colony, the division is generally due to the appearance of a new queen." Now this is not true. The new queen has not appeared nor will she appear according to the general rule for eight or nine days to come. The Professor seems to have confounded the first with second or third swarms from

a hive in this explanation. It is the appearance of rival queens that causes these after-swarms.

"REMARKABLE FACTS CONCERNING THE QUEEN BEE."

Agassiz says: "The queen bee, usually quite contented with her lot, watching over her progeny, active, and patient in the care of her eggs, becomes furious if a rival arises in the hive." "Usually contented with her lot," appears to be correct, but being "active and patient in the care of her eggs and watching over her progeny," is all imagination. The truth of the matter is, she takes no more care of her eggs or progeny than the flesh-fly or mosquito. I feel safe in saying this, for I have observed hundreds or thousands of queens and never yet saw one thus engaged. All that the queen does is to deposit her eggs in the cells, some do not even do that properly, a half dozen eggs being sometimes found in one cell. The supernumerary eggs must be removed by the workers. Any one can prove the truth of this by a little attention. It is nearly true that if a rival arises in the hive, the old queen will sometimes "fight to the death." But when the Professor explains how the rival appears, he errs again. "So well this understood in the hive that the workers take care to prevent such conflicts by holding back the new queen just ready to be hatched from her royal cell until the bees have swarmed." This is the mother queen, the old one, that is spoken of now. But the fact is that when she issues with a swarm *there is no such thing as a new queen just ready to be hatched*, nor will there be short of a week, unless bad weather has kept her back. Very many swarms and old queens come out—especially with the Italians—when the young queen has not yet emerged from the egg, and no young queen in such case will hatch out short of twelve days. Nature has provided that they should leave when the young queen has progressed to the larva state and has been sealed over in her cell. She is then a week longer in changing from the larva to the chrysalis and maturing to a perfect queen, before which time she cannot fight. Now the instinct that teaches the old queen to leave with the first swarm before there is any possibility of a conflict is quite as wonderful to me as anything the Professor relates.

He continues: "At such a time," that is, just before the issue of a first swarm, "the workers will stand by the cell out of which a queen is to be born, ascertain how far her transformation is completed, and, should there be a disposition of the young queen shortly to creep out, they increase the deposit of wax upon the lid, which shuts the cell, thus preventing the egress of the royal prisoner. If she tries to break through or attempts to gnaw her way out, the workers crowd around the opening or accumulate such an amount of wax upon it as to frustrate all her efforts. When the old queen has peacefully departed the new one is set free."

Now we have seen or can see if we observe properly that no such things happen with the *old* queen. We have hives in which we can examine all parts, can see every bee, and examine the condition of every cell at any time. With such hives nothing is easier than to show Agassiz to be in error. Had his remarks been applied to *young* queens they would have been nearer the truth, but then would not have hit it exactly. The way bees proceed in swarming is briefly this: The old queen departs with the swarm as soon as the first royal cells are ready and sealed, usually leaving some unsealed. The remaining workers go on precisely as before, nurse the young, seal up the unfinished cells of workers as well as the royal cells. The queen that first matures bites her way out before she has strength to fly, and makes it her business to go about and sting her royal sisters to death. This is exemplified when a hive throws off but one swarm in a season. But if a second swarm is to issue the case is different, and then is when the second and other maturing queens are kept back, not by depositing wax upon the lid, but by simply holding it shut; a little hinge on one side is all that holds, and it can be pushed open in a second when the bees do not hold it. The first hatched queen is not allowed to destroy the others, and seems to understand that they are deadly rivals and have strength to fight a decided battle. She seems greatly agitated, running about and stopping a moment occasionally to give a few sharp shrill sounds. Those in the cells repeat the notes in a hoarser key. I have taken out the combs and held a single one before me with the bees on it, and have seen the queen at the time of making the notes. I have examined the cells just described containing the queens, and seen the bees holding the door shut. I have cut off such cells, held the door myself, heard the piping noise in my hand, have laid the cell down and saw her majesty push open the door to freedom the next instant. This piping may always be heard a day or two before an after swarm or swarm with young queens. If the weather and all is favorable, the first hatched queen seeming to understand the consequence if she remains, leaves with as many bees as choose to follow, and avoids further trouble. This occurs usually in just nine days after the old queen issued. Another queen is liberated which proceeds like the one first hatched, and if a third swarm issues it is under similar circumstances and only about two days after. When the bees are through swarming the queen which is at liberty destroys all her rivals and reigns alone.

Now, a few words about the construction of cells. The Professor says: "The swarm having alighted near a favorable spot, a single working bee—one out of twenty thousand, per-

haps—starts from the crowd and lays the first piece of wax, which is the foundation of a new comb." This is not quite true. If he had left out "starts from the crowd," and simply said "lays the first piece of wax," it would have been nearer the truth. The first pieces laid are not always foundations of comb. The fact is, the first bee remains in the crowd when putting down the first lump, and is not in sight. Lumps of wax are stuck on the branch of a tree before the swarm has been there thirty minutes. A few hours after being hived they will have scores of these lumps, varying in size from a pin's head to a small pea. These disappear after the combs are commenced.

The lecturer continues: "The first bee having made the first cell, a second bee comes and stands opposite her, head to head; then another at her side, so that the two stand side by side; and the rest follow in definite position, each building a cell around itself, until gradually a good sized comb is built." I am much surprised at this. We have only to examine the process of comb building by taking out the bees occasionally, and we shall find no first cell at all until irregular lumps of wax joined together extend an inch or more downward. How a bee can "build a cell around itself" is a curious speculation. If the bee had a thin sheet of wax just the right size rolled out like paper, and could wrap it around its body, it might possibly be conceived. But comb is built in no such way, and the great naturalist is nowhere more grossly in error than here. The bee uses neither hands nor feet, but mandibles, and these it uses very much as a mason does a trowel. We can see this if we look—not, indeed, by trying to see into the dense mass of bees just hived—but by observing them through glass, when they have combs projecting outside the cluster, generally in glass surplus boxes best. We can see them detach a thin scale of pure white wax from the under side of the abdomen, one-sixteenth of an inch in diameter, then seize it with the mandibles and chew or work it into a sort of lump and apply it to the center of the comb or end of the cells. This lump is ten times the thickness of the partition wall of ordinary cells when finished. Warmth to make it pliable seems necessary. With their forceps they then remove the superfluous wax until just a thin plate at the center is left. The bottom of the cell is finished first, but wax is applied to lengthen the cell wall in the same way. It is polished with their teeth as they proceed. When the cell is one-fourth of an inch deep—if the yield of honey is abundant—it is nearly filled with honey, or receives an egg. The lengthening of the cell continues. If for a bee, one-sixteenth over a half inch in length is made. If for honey only, cells several inches long are sometimes constructed. One cell is not made first, but all advance together, and all are filled as they proceed, only leaving room to smooth and polish the end. Of course, the impossibility of the bee being inside a cell nearly full of honey to build anything around itself is apparent.

More might be said. But surely this is enough to show the folly of taking any man, however great, as an infallible authority. I can only hope that the Agassiz teaching on other topics may be free from the mistakes which he certainly makes in this lecture on bees.

M. QUINBY.

[For the American Bee Journal.]

A New Trouble.

It was, for the season, an exceptionally warm day—mercury 80° in the shade at three p.m. At each of our seven hives there was the eager bustle and stir of harvest-time. I had just remarked to Nellie that the recent frost must have spared some of the flowers, for, apparently, the bees were hard at work, when suddenly there appeared at the open door a bright-faced little urchin, quite breathless from the haste with which he had trotted over the mile of road between the village and our "corner." With a face full of that conscious importance which not the wisest of mortals can wholly conceal, when, like Cæsar, he feels himself to be "a great part" of some important affair, he silently extended a folded paper. Taking it, I read:

MISS CYNLA: A congregation of your bees is out on a rampage, and have assembled in Mr. Hondel's kitchen. I think there is a swarm out. M. L.

"What does it mean?" asked Nellie. "There can be no swarm out—this 27th day of September! Besides, with the doors all open, as they have been to-day, we must have seen them. Perhaps it is our run-away swarm of last June, or a detachment therefrom."

"Oh, no! They went away in just the opposite direction, you remember. It must be a swarm of wild bees from the woods—unless—"

"Are they all together, all in a bunch?" I asked, turning to the boy.

"Oh, no ma'am! They're all over the windows, and they're—they're *all over!* and they keep coming, and we can't drive 'em out!"

"I think I can guess what it means. They must be robbers in search of plunder—and I'm afraid that they belong here, too. What shall we do?" I said to Nellie, "I can't shut them up on such a bright warm day."

"It would be as well to make sure that they are our bees, before proceeding to extreme measures," she replied. "I can hardly believe that they would invade a kitchen more than a mile from home, and yet not trouble us in the least."

"Ah! but I remember now that I did close the pantry door in the face of a bee a few minutes ago. And it may be that without much

thought, mechanically and unconsciously almost, we are continually taking precautions which our friends at the village, who have less acquaintance with bees, may neglect until too late. I should certainly not hesitate to act as though I knew they were our bees, if only I knew what to do. As it is—don't you want to go to the village with Richard, for the mail?"

"Well, proceed," said Nellie. "You surely don't want me to go to the village to help Richard bring home the mail; what am I to do there?"

"Oh, you will call at Mr. Hondel's, of course, and can determine at once whether or no the bees are ours. And you can explain to Mrs. Hondel that they are simply in quest of sweets, and impress upon her the necessity of keeping everything of that description out of their reach. Tell her that, as it is so late, they will trouble her little more to-day, and she must be careful not to let them in to-morrow. Tell her, too, that we do not know what we can do to help her, here; and be *sure* to tell her that we are very sorry, and very much ashamed of the bees."

"Is that *all?*" said Nellie, as with wonted docility she prepared to do my bidding. "Wouldn't you like me to catch and bring home in my pocket every individual bee?"

"Just as you please about that, my dear. By the way, however, you may as well tell Mrs. Hondel that the bees will harm no one; that they will not sting unless pinched."

"Ready, Nellie?" called Richard, who was waiting, impatiently, of course, after the manner of men; and Nellie hurried off without stopping to listen to my parting injunction—to come home in time to avoid the evening dews and the attendant risk of ague and fever.

Hence it was after nightfall—[Nellie triumphantly maintained that it was, after all, in due (*dew*) time]—when she and Richard brought back to me this somewhat disheartening report.

The depredators, of whom Nellie found not a few stray loiterers, were genuine Italians; hence, unquestionably, our bees. They had come "all at once," Mrs. Hondel said, in such numbers that, much alarmed, she had dispatched a messenger to summon her husband from his office. By various expedients, she had succeeded, toward night, in getting rid of most of them, but, during their stay, they had made themselves generally disagreeable. One of the little boys had been stung, and the baby had put his little fat hand upon a bee on his mother's shoulder, and—

"And the baby was stung?" I interrupted, quite shocked and distressed.

"No, the mother was stung," said Nellie, with a smile. "Is that better?"

"Much better," I responded, with a sigh of relief—"and the mother, no doubt, would agree with me."

Further inquiry revealed the fact that the bees had not confined themselves to an invasion of Mr. Hondel's premises. They had likewise entered the provision stores and helped themselves to sugar and whatever else was to their liking. "First time I ever saw bees eat brown sugar!" remarked one of the afflicted parties.

"I don't know," Nellie continued, "whether you will be most amused or vexed, to learn that I was politely assured that they could not be our bees, for these marauders were long, lean, ravenous creatures, the reckless, desperate way in which they plunged into everything, showing conclusively that they were half starved. To which was added, 'and of course, Miss Nellie, *your* bees must be plump and well fed.' It was somewhat embarrassing to be obliged to own the bees, and to feel that my listener must at once conclude that we half-starved, and perhaps otherwise maltreated our pets."

"But, of course, you told them that our bees had stores in plenty."

"Yes, I told them so—but I don't know how much credit was given to the assertion I was vaguely conscious of a doubt somewhere, and quite sure that it wasn't in my *own* mind."

"Well," I said, when the whole situation had been depicted and discussed, "as to-morrow is Sunday, perhaps the doors will be closed against them, and by Monday there may be a change in the weather."

"There is not much consolation in that," remarked Nellie. "How are we to prevent it from happening again on the next warm day? And if, next year, our bees increase at the same rate that they have done this year, we shall have, next fall, twenty-five colonies, instead of seven, wherewith to vex our neighbors! and what—"

"My dear," I interrupted, "never allow yourself to exaggerate! At the same rate of increase we shall have but *twenty-four and a half colonies* 'wherewith to vex our neighbors.'"

"I *didn't* exaggerate! Does the swarm in the woods add nothing to the rate?"

"I believe that it would not be allow—"

"Oh, nonsense, Cynla! Tell me at once what you think of the prospect."

"Well, I confess that, so far as I can see, it isn't altogether pleasant. Whenever we shall have a perfect autumn day—a day to be enjoyed—we shall think of our bees and our neighbors, and sigh for clouds and rain. In fact we shall only be happy when the weather is disagreeable enough to make us wretched. Whenever the sun shines we shall go about repeating

> "The melancholy days have come,
> The saddest of the year;"

"Cynla!" said Nellie, in a tone of grave remonstrance.

"Well, my dear, seriously and candidly, I don't know what to do. I don't like the notion of troubling our neighbors, but, on the other hand, I *cannot* think of giving up our

bees. Perhaps we shall get along without serious difficulty this fall, and we won't borrow trouble. I will tell the story in the A. B. J., and it may be that some one of our good brother bee-keepers will be kind enough to tell us how we may keep our bees at home, or at least prevent them from preying upon our friends at the village. We will not, just now, think of the desperate alternative of giving up bee-keeping. It has in itself given us so much genuine pleasure, and despite mistakes and blunders, it promises to prove so satisfactory an investment!"

"Provided," said Nellie, "that our bees survive the coming winter."

CYNLA LINSWIK.

[For the American Bee Journal.]

Report of the Jurors on the Exhibition of Articles in Class 20.

Bee Hives with Bees, Honey Extractors and Apiaries at the Fourth Annual Exposition at Cincinnati, O., 1873.

TO THE BOARD OF COMMISSIONERS--*Gentlemen:* We having been appointed jurors in Class 20, have examined the different articles entered for competition in that class, and now report as below:

No. 342. Bee Hive and Bees entered by G. W. Townley, of Mt. Auburn.

This is what is generally called a box hive. It is about 14 inches square and 12 inches high, with glass sides, so that the outside combs can be seen when desired. It has an addition above for honey boxes, in which what is called *box honey* is placed by the bees, and which constitutes the surplus taken off during the honey harvest. This particular hive has the combs arranged in a peculiar manner. Ordinarily the combs being parallel, the observer can see the edge of the combs at the back of the hive, and the sides of combs at the sides of hives, but in this one, edges are shown all around. This is an oddity produced by intelligent management, but of no benefit, economically or pecuniarily It is a curiosity only. The bees are fair Italians. As it could not be opened, we did not see the queen.

No. 1261. Bee Hive and Bees. Chas. F. Muth.

This is a frame hive of the particular shape and size known as the Langstroth. It contains ten frames, each one about 9x18 inches outside measure, in which, by careful management, aided by the peculiarities of the frames, the bees are induced to build the combs within the frames. When the combs are once built properly within the frames, all care on that part of the subject is ended. By the use of the frames the bee-keeper is enabled to thoroughly inspect all the inner workings of the swarm at any time, which renders the business of the bee-keeper a certainty, and a subject of exact calculation. A bee-keeper can now be rarely found who continues the use of the box-hive beyond the time of absolute necessity. All *changes* are made to frame hives. The bees in this hive are claimed to be Egyptians, and to be superior to the Italians in several points. Mr. Muth, the exhibitor, being on hand, opened the hive and showed us all its internal arrangement, and the queen also. The queen is dark, well shaped, and from the number of eggs and brood in capped cells, appeared to be very prolific. The bees differ from Italians in appearance. They have the three yellow bands, but the bands on the hinder part of the abdomen are bluish white, and give them quite a different look from Italians. They were very quiet and easily handled.

No. 314. Two Honey Extractors. J. W. Winder.

These are two varieties of the same machine. It is an apparatus brought into existence by the use of frame hives. Many bee-keepers have adopted it because by its use they can furnish honey free from comb, and also return the comb to the hive for the bees to refill, thus securing a much larger yield. By the use of the frame hive the bee-keeper can easily examine and ascertain the amount of honey ready for extraction. When the proper time has arrived, he opens his hives one after another, selecting those combs which are properly filled, replacing them with combs from which the honey has been extracted at a former time. After shaving off the caps, he places two in the machine, selecting those which balance best. A few turns of the handle, say ten to twenty, at a moderate speed, will expel every drop of honey from the outside cells. The combs are then reversed and the other side emptied. These machines are a very important addition to the tools of the beekeeper.

No. 1259. Apiary. J. S. Hill & Sons, Mt. Pleasant, Hamilton Co., Ohio. P. O. Mt. Healthy.

As this could not be brought into the Exposition building, a visit to it was necessary, which was accordingly made. Messrs. Hills' apiary is at the farm, about one mile beyond Mt. Pleasant. He has eighty-six swarms at the present time, all Italians, scattered around over a level lawn, averaging about eight feet apart, all being frame hives, and all or nearly all of the Langstroth pattern. They began the season with seventy-nine swarms and consequently have only made seven new swarms. They have about as many as they care about attending to, and therefore have not endeavored to increase their number, but have directed their efforts to the production of both extracted and box honey. They have used the extractor on twenty-one hives, obtaining therefrom three thousand five hundred and seventy-seven pounds (3,577), or an average of one hundred and seventy and one-third (170 1-3) pounds per swarm. They have set apart sixty-five (65) hives to

the production of box honey, obtaining from them two thousand eight hundred and fifty-two (2,852) pounds, or an average of nearly forty-four (44) pounds each. From the whole eighty-six (86) the average product is seventy-four and three-quarter (74 3-4) pounds each. From the much greater yield of extracted honey, and from a similar experience of former years, and for various other reasons they much prefer the production of extracted to box honey. Their hives and all the tools and appliances about the apiary are kept in a neat and orderly manner, which no doubt adds to the pleasure of the bees as well as that of the owners, and their visitors. Their hives are all near the ground, on short legs about six inches long, generally with an inclined board leading from the ground to the porch of the hive, partly shaded by trees, and are among the farm buildings, the family having no fear of stings, as they generally are when two or three hives of black bees are kept within gunshot. We opened several hives, examining their internal arrangements and the color, size, &c., of the queens without receiving any stings, and with very little danger of it. All bee-keepers agree that the Italians are much gentler and more easily handled than the blacks, and the former are fast superceding the latter. The production of Italian queens for the quicker change has become an established business for many bee-keepers. The Hills, Mr. Muth and Mr. Winder, to whom we award the different premiums, as well as several other bee-keepers around the city, are importers as well as home breeders of Italian queens for that purpose, and those desiring to Italianize their apiaries can be well suited among them.

We award as below:

1261. Chas. F. Muth, best Bee Hive with bees.

314. J. W. Winder, best Honey Extractor.

1259. J. S. Hill & Sons, best Apiary.

(Signed) JAS. H. ANDERSON,
H. W. STEPHENSON.

[For the American Bee Journal.]

Progressive Bee Culture—Answer to Mr. Adair.

If the pamphlet of Mr. Adair could be of some utility to beekeepers, I would advise every one of them to get a copy, in which they would see that if I have not always given the exact terms of Mr. Adair in my quotations I have always remained in the general meaning, such as would be understood by the majority of our readers. But the pamphlet recalls to my mind the nature bee book of Prof. Flanders, of humbugging and charming memory, who had contrived to sell fifteen cents a circular, with sixteen pages of reading matter, and sixteen pages of advertisements for his hive, his bee show, etc., likewise the book of Mr. Adair has twelve pages of reading matter, and twelve of advertisements; and I think that the twenty-five cents, price of this book, can be employed to better use; especially as I have not been able to detect in it a single new or practical idea.

It is not the first time that Mr. Adair has used this way of raising money. I have on hand a small pamphlet—*The Outlines of Bee Culture;* second edition; by D. L. Adair; price, twenty cents. That has only three pages of matter on bee culture, and nineteen of advertisements.

Talleyrand used to say that language was given to man to conceal his thoughts; the same can be said of Mr. Adair, who uses his pen to conceal what he means, as I can prove by a few quotations.

In his reply to my criticism, Mr. Adair says that I have construed my quotations into his saying that "the production of drones is an irregular act." He adds: "If he will read it over, he will see that I did not say so. I was speaking of the constitution of the colony, and not of the act of production of drones." Now if we turn to his pamphlet, page 3, we can read: "*Drones an abnormity.*" The production of drones "always the result of an *imperfect action* of the organs of reproduction in the queen, and is an abnormity."

I quoted from the book, page 5: "*A normal colony of bees;* a perfectly balanced normal colony of bees consists *only* of a queen and workers; and so long as *that balance* is maintained, there is no necessity for any other members being added. Another fact of great importance is, that so long as the balance is perfect, no drone comb will be constructed by the bees, nor will any queen cells be commenced." In answer to my appreciation of these paragraphs, Mr. Adair says: "If this and the next six pages that follow, simply convey the idea that a queen and workers are all that is necessary to a perfectly balanced colony of bees, I will quit writing. When I said that such a colony consisted *only* of a queen and workers, it strikes me I did not say that as long as a hive has no drones it is well balanced, but maybe I did." Friend beekeepers, you can judge whether Mr. Adair should quit writing.

Further Mr. Adair adds: "Mr. Dadant closes his article by an *unfair* criticism on a hive I sent him several years ago (1869), and conveys the impression that it is the 'new idea' hive. Such is not the case." Of course the hive sent was the Adair section hive. To see how *unfair* I was in this matter, let us turn to the advertisement on the cover of the A. B. J.,—we read:

THE NEW IDEA.—ADAIR SECTION HIVE:

The result of *fifteen* years of experiment.

Two paragraphs above he notices an unkindness from me, when I charge him with claiming that his hives alone produce certainty of non-

swarming. I could quote from the book, but it is not necessary. Let us see the same advertisement as above :

The inventor has produced the *only*

NON-SWARMING HIVE EVER CONSTRUCTED.

The section hive alone has many other advantages, if we believe its inventor. For instance, I read in a circular entitled "Adair's Melextractor"—

"The section hive is the only hive that can be successfully used in fertilizing queens in confinement."

Of course, in the price list, for 1871, I find the fertilizer in confinement, with drone drop, etc , price $3.

But enough of this *gallimatia.*

Mr. Adair maintains that there are no reasoning faculties in bees, but instinct. Instinct is undeveloped intelligence. New born children have instinct. Intelligence and the faculty of reasoning are the same. Animals have instinct, but their organs remain unfit to develop their intelligence as fully as that of man is developed. Yet their maternal solicitude sometimes increases so much their intelligence, that we can no longer refuse them some reasoning faculties. I will quote an instance of intelligence in the swallow.

A friend scientist, Mr. Touchet, who had described, years ago, the nests of swallows, was very much surprised two years ago when he saw swallows building their nests upon newly constructed houses, in Rouen, had adopted a pattern entirely different from that which he had described. He examined the birds; they were exactly the same. The old houses, having old nests occupied by swallows, he destroyed several of them, and they were all reconstructed upon the new model. The old nests were half globular in form, and deep, with a small round opening for entrance; while the new nests were enlarged, flat, and had an opening nine to ten centimeters in length, and two centimeters wide. In the old nests the small birds were heaped up, lacking air, while, in the new, the birds were more at ease, and had the pleasure of enjoying plenty of air, and the view of the surroundings.

Can Mr. Adair say that the swallows did not reason, in improving the construction of their nests? If he persists to say that that is instinct, not reason, I will answer that his theory of immutable laws, in regard to the workings of animals, is a nonsense; for the instinct of swallows has varied.

The same birds show another instance of reason. Sometimes a sparrow, too lazy to build a nest, takes possession of a nest of swallows. Then, the swallows of the neighborhood assemble, and the poor sparrow, unawares, is walled up in the nest by the earth that every swallow brings to shut up the door of the nest.

If swallows have reason, or if their instinct can vary, I cannot see how it can be admitted that bees cannot reason, too, or why their instinct cannot vary.

The denial of Mr. Adair as to the intelligence of bees, will no more destroy their reasoning faculties, than his erroneous ideas on bee culture, although printed, will stop progress.

CHAS. DADANT.

[For the American Bee Journal.]

Pennsylvania Bee Keeper's Association.

The Pennsylvania Bee Keeper's Association met at the rooms of the State Agricultural Society (Noble's Block), in the city of Erie, Oct. 1, 1873. The meeting being called to order, the following officers were elected for the ensuing year :

President, Seth Hoagland, of Mercer Co.

Vice Presidents, John Smull, of Dauphin Co., and A. J. Lee, of Crawford Co. Secretary, W. J. Davis, of Warren Co. Treasurer, James Russell, of Venango Co.

Mr. Small, of Harrisburg, moved that the President and Secretary be invested with the authority to use such measures as they may deem necessary to promote the prosperity of the Association. Carried.

At the request of several members, the President gave some very interesting remarks on the superiority of the Italian over the common black bee, and stating that his colonies had paid him in surplus honey and increase the past season an average of $80 per colony, spring count. At the close of his address, Mr. Hoagland was greeted with a shower of questions upon various topics connected with bee culture. Mr. J. R. Eby (President of State Agricultural Society) said it had been asserted that the honey of Western Pennsylvania was superior to that of the Eastern part of the State. He wished to know if such was the fact, and if so, why? Mr. Hoagland replied by saying that the honey of each locality depended upon its floral products, and these again were influenced by the soil from which they grew, and the kind of weather prevailing while such flowers were in bloom, and *possibly* by their growth prior to blooming. The bee herself is not a honey-maker, but a honey-gatherer. He could not see why the same kind of flowers grown in similar conditions should not produce the same kind of honey,—thought the honey producing plants of Eastern and Western Pennsylvania were similar.

Mr. Rhey, of Westmoreland Co., wished to know what made the bees die off so the last two winters. Mr. Hoagland—That is just what I want to know. I attended the National Convention at Indianapolis last winter to learn, if possible, a solution of that question, but returned no wiser than I went. He

thought he would have to report after the fashion of some coroner's juries, "Came to their death from some unknown cause."

Mr. Smull, of Harrisburg, said he had not had as much experience in the management of bees as in eating their product, but would like to ask why it was that if there was but one queen bee in a hive, why should there be so many drones or male bees? Mr. Hoagland replied that one of the leading agricultural papers of the country, a few years ago, in discussing that question, said, "Nature has made a great mistake by providing 5000 drones in one colony, when the services of only one would be required." The speaker said nature had not erred in providing a large amount of drones, from the fact that when a virgin queen goes forth on her bridal trip, the colony in its natural condition does not possess the means of supplying her loss should she perish, before regaining her hive. Hence the importance of having a large number of drones, that her flights for fertilization be as few in number and as short as possible.

Mr. P. Morris, of Philadelphia, inquired, Is honey a vegetable, or animal production? The reason, he said, for making the inquiry, was, that a friend had recently been visiting his family, who was to confine himself strictly to an animal diet, meat, milk, eggs, etc. A dish of honey was presented to him, and according to the instructions of his physician, if it was an animal production, he could partake, if not, he must abstain. A member—According to what the Chairman has said, it must be a vegetable production. Mr. Hoagland—There is one kind of honey known as honey-dew honey, which was not a vegetable production, but was a deposition from the body of the aphis, which bees some seasons and in particular localities collect and store in their hives.

Dr. W. H. Eagle, of Harrisburg, rose to inquire what effect bees have upon the fruitage of orchards. Mr. Hoagland replied, said he had sixty-five acres of orchard and raised large quantities of fruit; was of opinion that bees were a decided benefit in securing the fertilization of the fruit-bearing blossoms.

Dr. Eagle knew a farm in Massachusetts which was sold at a high figure because its orchards yielded so abundantly. But the former owner moved to the West, taking his bees with him. The result was a great decrease of the fruit crops, so much so that the former owner was accused of having exercised some kind of witchcraft to prevent the trees from yielding their usual crops.

Mr. P. Morris (Editor of *Practical Farmers*, Philadelphia) was asked to give his opinion on the knotty drone question, viz.: Can a pure Italian queen, that has mated a black drone, produce pure Italian drones.

Mr. Morris replied that, in breeding choice cattle and horses, he had acted on the theory that the first impregnation of the female affected all her future progeny. And the heifer or filly that broke from its inclosure at particular times, and indulged in improper company, was ruined for life, so far as producing pure stock was concerned. And his own observations had fully satisfied him of the correctness of said theory.

Dr. Eagle—The theory holds good with a higher order of creation than those referred to.

A member—Admitting the theory to be correct, so far as reference has been made, does it hold good with such animals as propagate by depositing eggs in cells, or in nests, as birds and domestic fowls.

Mr. Morris—Have observed the same results in the breeding of poultry.

The discussions having been continued to a late hour, on motion, the Association adjourned to meet at time of holding next State Fair. Special meetings held by order of Executive Committee. W. J. Davis, Sec'y.

Youngsville, Pa., Oct. 1873.

[For the American Bee Journal.]

Sending Bees by Mail.

We have sent from our apiary over 600 queen bees by mail since the 20th of June. Occasionally one has died before reaching its destination, but as a general thing all have been received in fine order. We have sent one man in Pennsylvania 182, all of them went safely, save two, and the lot sent with them were reshipped, and were several days longer in the mails than usual.

We use honey for food, and as it is contained in a sponge, there is no danger of its mussing and daubing the contents of the mail bags. We have used such a cage for seven or eight years, and with the best success. Rev. L. L. Langstroth paid us a visit in May last, and he was so well pleased with the cage that we had to make him fifty of them to take home with him. He considers them the best he has seen. Any one sending queens by mail can have one of our cages upon application, and had these cages been used generally, we never would have heard about the mails being daubed with honey.

One of the largest queens bee advertisers in the United States sent us a queen this season in a wooden box, containing a piece of honey comb. The bees were daubed, and could not have stood it much longer. We thought that was first-rate for a man who advertises the best cage in use.

We sent him one of our cages, and we hope he wont longer continue to daub the mails. We think the whole trouble originated with this class of shippers in the first place.

We requested Hon. B. F. Butler to call and see the Postmaster General, and sent him one

of our cages to examine. Below we give the result of the interview:

POST OFFICE DEPARTMENT,
WASHINGTON, D. C., May 20, 1873.

SIR: In reply to the letter of your correspondent, Mr. H. Alley, of Wenham, Mass., the Postmaster General instructs me to say relative to the ruling of this Department, that honey bees should not be transmitted in the mails; that said ruling was based upon the 133d Section of the Postal code, passed June 8, 1872, which requires postmasters to exclude from the mails all articles which, from their form or nature, are liable to destroy, deface, or otherwise injure the contents of the mail bags, or the person of any engaged in the postal service, and that in view of the fact that a special agent of this Department discovered one of these packages in a leaking condition, the contents of the mail bag having been badly soiled thereby; also that a person in charge of the mail bags advised said agent that he had been badly stung by the bees, he does not deem it advisable to reverse or modify the former decision. Very respectfully,

J. W. MARSHALL,
First Ass't. P. M. Gen'l.

HON. B. F. BUTLER, Washington, D. C.

Now who believes that any man was stung by the bees while going through the mails? I for one do not.

I wish I had this fellow in my bee yard about the time I get a lot of black bees from my country friends, I would let him know what it is to be stung by bees.

Mr. Langstroth promised me he that would do something about sending bees by mail. I presume his health has prevented him from doing so. The fact is, no postmaster has had orders not to receive bees to be sent in the mails. Our postmaster knows nothing about this decision, only what I have told him, and he will take all the bees I will pass into him, and I have no trouble in getting other postmasters to take them, and no postmaster would refuse to take them who understands his "biz." I am of the opinion that nothing more will be said about it unless those fellows continue to put honey in the cages, and I don't think it advisable for any one to say more about it, unless the Postmaster General opens again. I think all has been done that can be for the present.

We have this season sent queens by mail to Alabama, Texas, Missouri, Nebraska and Kansas, all of them went safely to those places. When a dead one was reported, it has come from New York State, or some other place where the mail will arrive in twenty-four hours from Wenham. With this year's experience we have learned much that is valuable to a queen raiser. We never before received so many orders for queens as we have this season, and we never before got so much honey from our bees, and of such good quality, as we have this season. H. ALLEY, *Wenham, Mass.*,

P. S.—CORRECTION.—MR. EDITOR: In the October number your printer made me say some things in my article on "*Feeding Bees*" that I did not say. In describing the feeder made by Mr. Langstroth, you made me say: Two combs are tied together at the largest ends. What I said was this: Two *corn cobs* are tied at the largest end. Then you made me say *that my hives* have nearly as much food (Sept. 11) as they had in the spring. *Brood*, and *not food*, is what I intended to have it read. H. ALLEY.

[For the American Bee Journal.]

Bees and their Sting.

Let me premise the subject of my communication by stating that my experience in bee-keeping, to any extent, runs back only three years, and yet I have had them in keeping in the old way, for many years, as also my father before me; but having made up my mind to follow bee culture as a business, I determined to know something of others knowledge as well as to learn something myself. With these determinations and objects in view, among the very many things to be learned was how to get stung and how not to get stung. I took the advice of old bee-keepers the first two seasons, and smoked my bees sometimes with punk, again with cotton rags, then with tobacco, observing the effect upon the bees at each smoking both at the time and at subsequent visits to my apiary. I always found that the stronger the smoke (No. 1, punk; No. 2, cotton rags; No. 3, tobacco;) the more docile the bees were at the time; but woe to me when I approached afterward the colonies subdued by No. 3. Merely passing by those hives, without disturbing them in the least, they would—so to speak—pitch into me all sorts, at one time receiving no less than seven stings. Nos. 1 and 2 were less ferocious, consequently I discarded No. 3 entirely. Gradually Nos. 1 and 2 were ignored, and this season I have used no smoke at all. As a rule to go by at all times, I approach a colony to be examined at from 10 A. M. to 4 P. M.; carefully remove the cover from the hive; wait a moment, remove the honey board; pause a moment or two and then very gently raise the frames. It is very seldom that I use vail or gloves, and only occasionally I get a sting.

Here I must diverge from my subject to say that it is not a "mistake to suppose that a bee-sting is nothing when you are used to it," when a certain remedy is at hand, as in my case. Here I will state that I am in the habit of receiving visits to my apiary from gentlemen, and even ladies and children, who stand at my side, unprotected, while I take out the frames, and hunt up and exhibit the queen. Out of very many calls of this kind only one individual has been stung. Having said thus much of experience and management, I now propose to briefly make a note of the poisonous effects of the virus of the bee-sting.

1. The fact is patent that all stings do not have the same effect upon the system; in your own case, for instance, as given in a late number of the JOURNAL, if that bee had stung you on any other part of the body the effect would have been the same, in its nature, only varying in intensity and virulence, as one part of the body is more susceptible than another; and, yet, if I were to choose the spot to be stung I should want to take a little time for reflection, as to my mind the one received through the hard skin of the hand I suffered most from. I do not believe the state of the health, the particular state of the system, or any contigency that may exist so far as the human frame is concerned, has any thing at all to do with the virulence of the bee-sting. Neither do I believe that one bee is capable of imparting any more virus than another under the same circumstances.

2. No apiarian who has made any observations upon the manner of the individual bee, when making its attack, can but have noticed that there are two marked and distinct modes. First, the darting, quick, unwarned one; second, the humming one, that seems to say, "If you don't get out of the way I'll sting you." The first, so far as my experience goes, are always very painful, acute and almost unendurable; while the latter may properly be classed among those that "amount to nothing when you get used to them."

3. Those stings whose effects operate like "little tidal wavelets" effecting extremities, causing a "strange tingling sensation in the ends of the fingers and toes, as if the virus courses through the whole system" resulting in "a general sense of weakness and soreness," are of that class where the bee-stinger is inserted directly into a principal vein or main artery. When this occurs, the virus is at once imparted to the whole system through the blood, and then come the class of bee-stings that may result seriously, death only relieving the suffering patient.

And now in conclusion, having already spun out this article much longer than intended, I will say that we should have very many more bee-keepers than we have, were it not disagreeable and even dangerous to be stung by the bees, or could we have a sure remedy at hand.

WM. S. HAWLEY.

Utica, N. Y., Sept, 1873.

[For the American Bee Journal.]

A New Honey Company.

MR. EDITOR: I consider it my duty to communicate to you that I have lost all confidence in the *solitaire honey house* of C. O. Perrine, for reasons given in a communication on the Gleanings in bee-culture, since I have in former volumes of your valuable JOURNAL recommended that great honey house, in some measure, through which recommendation I might become the cause of losses by my brother beekeepers. I have this year sold my honey and a number of small lots I bought of neighbors, to a honey house just starting under the name of the Chicago Honey Co., at 360 Wabash Avenue, with the former wife of C. O. Perrine as principal manager, whose business tact and ability is conceded by all who know her. This new firm offered me a liberal price, gave me nearly all cash, after delivery of the honey. I feel perfectly confident that other beekeepers will have no cause of regret if they should deal with this new honey house.

I hope I will soon be able to send you some very important communications for your valuable JOURNAL. A. GRIMM.

Jefferson, Wis., Oct. 18, 1873.

[For the American Bee Journal.]

The Honey Bee.

(Continued from Last Number.)

MODE OF COMMUNICATING AMONG BEES.

Like every other animal living in society, bees have a medium of communication. The effects produced upon them by the loss of their queen will furnish proof of this fact. In a well peopled and thriving hive, each bee is employed in its appropriate avocation, some in attending the young, some in making cells. At first, when the queen has been abstracted, everything goes on well for about an hour, after this time, some few of the workers appear in a state of great agitation, they forsake the young, stop their labor, and begin to traverse the hive in a furious manner. In their progress wherever they meet a companion, they cross their attennæ, and the one that seems to have discovered the national loss, communicated the sad news to its neighbor, by giving it a gentle tap with these organs. This one in its turn becomes agitated, runs over the combs, crossing and striking others. Thus in a short time the whole hive is thrown into confusion, everything is neglected, and the humming may be heard at a distance. This agitation lasts from four to five hours, after which the bees are calmed, and begin to adopt the measures which are necessary to repair their loss.

That the agitation of the bees arises from the loss of the queen scarcely admits of a doubt. "I cannot doubt," says Huber, "that the agitation arises from the loss of the queen; for on restoring her, tranquility is instantly re-established among them, and, what is singular, they recognize her." This expression must be interpreted literally, for the substitution of another queen is not attended with the same effect, if she be introduced into the hive within the first twenty-four hours after the removal of the reigning one. Here the agitation continues, and the bees treat the stranger just as they do when the presence of their own queen leaves them nothing to desire.

Huber introduced a fertile queen, eleven months old, into a hive which had lost its own twenty-four hours before. Immediately on placing her on the comb the workers which were near the spot touched her with their attennæ, and passing their trunks over her body, gave her honey. Then these gave place to others who treated her in exactly the same manner. Vibrating their wings at once, they all ranged themselves around their adopted sovereign, hence resulted a kind of agitation, which was gradually communicated to other workers on the same comb, and induced them to come and reconnoiter, in their turn, what was going on. These arriving, and breaking through the circle that formed the foremost ranks, approached the queen, touched her with their attennæ, and gave her honey. After this little ceremony, they retired, and placing themselves behind the other where they vibrated their wings without tumult or disorder. When she began to move they were so far from opposing her progress, that they opened the circle at that part towards which she turned, followed her and surrounded her with a guard.

ANTIPATHY BETWEEN QUEENS.

That antipathy of queens is natural, is proved by the fact that it holds good even against the almost universal instinct of maternal feeling. The queen bee at certain seasons, as shall be hereafter explained, lays eggs, which in due time are destined to bring forth other queens. It might be supposed that, in this case, the feelings of a mother would have their full sway—not so. As soon as her young are about to assume a shape like her own, even when they are yet in their cradle, and incapable of self defence, she is stimulated to the utmost fury by their presence; she tears open the cells which contain them and kills her own offspring. Whatever may be the motive to such an action, we must regard it as intended to answer other purposes than gratifying the revenge of a poor insect. It forms a part of the economy of nature. It is evidently the intention of the author of nature that this should take place, for an especial provision appears to be made for such an attack on the young queens. The cocoon which the royal grub spins differs from that spun by the worker grub. The latter is closed in every direction, so that the silk coating would ward off the sting. The former, on the contrary, is left open and uncovered on the only part of the body which is vulnerable—the lower rings of the belly. RENEDIUR.

(To be Continued.)

IN the Island of Madagascar, and the Mauritius Islands, a species of bee is found (*Apis unicolor*) of a bright shining black, without spots or colored bands. The honey which is highly spoken of, is at first of a green, but becomes reddish-yellow with age.

A Plant Destructive to Bees.

The large podded milk weed almost invariably causes the death of every bee alighting upon it. The bee either adheres to the plant, or else bears away a small scale sticking to its feet, and cripples itself fatally in attempting to remove the annoyance.—*H. E. Norton, in Agriculture Report.*

[For the American Bee Journal.]

Brood without Pollen.

I am quite in accordance with Argus, when he says that brood cannot be reared without pollen. I can support my theory on some facts, which are exactly the reverse of the experience quoted by Mr. J. Butler, in the AMERICAN BEE JOURNAL for August.

Some three or four years ago, I had a small colony which deserted its hive in April. I examined the hive, while that *Easter* swarm clustered, and found some brood and plenty honey. Without guessing at the cause of the desertion, I put it back in its hive. The next day it deserted again. I examined the hive anew, and noticed that there was no pollen to be found. I took a comb of pollen from another stock, which had been queenless for some time the preceding summer, and gave it to my needy colony; relived it, and the bees, henceforth content, remained peacefully in their hive.

This spring I have had three similar stocks, who deserted their hives. Two mixed together, and I did not see fit to separate them. All three had honey and brood but no pollen.

Remembering the lesson received three years ago, I gave them pollen; put them in their hives, and they remained, and are still there.

These facts show plainly that pollen is absolutely necessary to bees, to rear brood; and that the lack of pollen can often be accused of doing the mischief, when colonies desert their hives.

Science is in accordance with experience, to show that brood cannot be reared without pollen. All the beings of the animal kingdom, are compounded with albuminous matter. The bee is not an exception to the rule. Honey does not contain albuminous matter; it contains mainly saccharine, or hydrogenous and carbonaceous matter. Whence could the larvæ get the albumen, necessary to their development, if they had only honey to eat? The jelly which is given to the brood by the bees, contains the elementary substance, albumen, which is derived from pollen, and without which the young bee could not develop itself.

CH. DADANT.

THE word honey is undoubtedly derived from the Hebrew *ghoneg*, which means "delight;" an appropriate title.

[For the American Bee Journal.]

Queries.

On page 78, of October number of the A. B. J., D. L. Adair says: "I speak advisedly when I say, that so long as the balance is perfect, no drone comb will be constructed by the bees, nor will any queen cells be constructed."

Now, in view of this assertion, will he or some one else inform me why, during an abundant honey harvest, the bees will build only drone comb when an empty frame is inserted in the brood department of a populous colony? I have tried the experiment a number of times with the same result, invariably, where a single frame was inserted. It appears to make no difference whether or not the extractor has been used immediately preceding the insertion of the empty frame. I ask for information; for it is intensely annoying to find a frame filled with drone comb, when we wish to increase the scope of the brood nest by placing an empty frame between full combs.

I removed a hybrid queen from a full colony and inserted a capped queen cell, which was destroyed before it hatched, by a young queen reared from the hybrid stock, which I removed as soon as discovered, and before she mated, and introduced, by the wire cage process, one of my finest queens. When I liberated her she was kindly received. She had been caged fully eight hours. At the expiration of about two weeks I opened the hive to find no brood, but a very fine young queen just hatched, which I readily knew to be a daughter of the queen I had introduced. Upon reflection I then remembered that my little six-year-old boy had insisted that that hive had swarmed a day or two after the queen was released. He had the promise of a little observing hive, if he should first see a swarm come forth, and he complained not a little that his mother could not see the swarm where it had "settled," in a peach tree, by which he lost his credit of a hive of bees. "It was about as big as my two fists," said he. I then watched the hive closely, and was surprised to find that upon the queen commencing to lay eggs, the bees commenced to construct queen cells, and continued so to do after repeated destruction of the same, until her brood, which was very fine, commenced hatching, at which time the hatched young queen, despite my efforts to prevent it, and before I was aware of the fact, the young queen killed her mother. I then introduced a piece of brood from another colony, and at once the bees commenced to provide for another queen. I again removed the brood and have now left them to their folly. If they destroy the last hatched queen, they must perish, as it will be too late for a wedding flight, as the young queen has just commenced to lay.

I should be glad to have some explanation of this strange phenomena, that I might know the cause, and thus guard against a recurrence of the same. By this freak I have lost two of my finest queens. *Can it be accounted for?* The hive was populous, and was supplied with an abundance of stores. This strange proceeding commenced about the first of August, and the last queen has just commenced to lay, and it is now Oct. 4.

Bees have done well this summer, *i. e.*, those that survived the terrible frosts of last winter, and are in good condition for wintering.

Lima, O. J. E. Richie.

[For the American Bee Journal.]

Novice.

Dear Bee Journal: We have had "our say" so often on the subject of wintering, through these pages, that we have this fall preferred to say nothing more, but we really cannot keep still while so many, as it seems to us, persist in blundering hopelessly in a wrong direction.

Now those who have had no experience with the "great bee malady," and have no fear of it, may skip the following, but to those who have suffered and may suffer again, we would make this last appeal, and in doing so we shall, as usual, censure heavily some of our veteran teachers for purposely or carelessly leading our suffering friends astray.

Mrs. Tupper, in the first place, makes the remark that "as the fall honey in the nest is of extra quality, there will be no need of taking it from the bees to prevent dysentery," totally ignoring the very abundant testimony to the effect that neither by the looks, taste nor smell could any one have inferred that the honey taken from hives from which the bees had died was other than of the finest quality. Honey sealed up nicely, as well as unsealed, and that gathered from the clover fields in June, seemed to produce disaster alike, as careful experiments showed the winter before last. That some localities have been exempt from the disease, we all know, but when it has once appeared, it seems sure to come again, and each succeeding winter seems to open a new field for its ravages. Has she no fear that those who heeded her advice in risking their bees again on natural stores, may not next spring, when lamenting over their losses blame her for having advised them thus. We cannot help feeling that Mrs. T. reads the journals to as little purpose as did Quinby, when he suggested that the blame might be laid to the *cold north winds*, forgetting that bees, carefully housed, had suffered from *the bee disease* just about equally with those left on their summer stands.

Mr. Burch, in the October number of the *Magazine*, seems to have fallen in with "*An Old Man's Views*," given in the June number of this journal (although he don't give him

credit), but, bless their hearts, did neither of them ever consider that a box hive with the combs built not quite to the bottom, gave just their conditions exactly, and yet such hives had the dysentery just as badly as the rest. A careful reading of the testimony furnished might have saved the time spent in fabricating long theories gathered from science and the doings of the "Allwise Creator himself." (We beg pardon, but friend Andrus has given us too much theory, and too few facts from bee culture). On the same principle a small colony of bees should winter well in a large, tight hive, but most beekeepers have seen the folly of such a course in trying to follow Hosmer, and we believe all are well satisfied now to follow Langstroth in considering "strong stocks, the sheet anchor in beekeeping."

Those who think a colony of young bees exclusively won't have the dysentery, had better make the experiment. for we are under an injunction not to consider that part of the matter at present.

We hardly need repeat what we would advise, yet there seems to be such a stubbornness, if we may so term it among the veterans, in regard to considering sugar as food for bees at all, that we must keep going over it. Quinby has made some experiments feeding sugar, and successful ones, too, but he don't put them in print; and H. A. King, in his October magazine, seems to have reconsidered the matter, for he replies to a correspondent who *may* have an existence, that "Honey is best, but syrup made from white sugar is *nearly* as good."

Is it possible, we fell to wondering when we saw the above, that jealousy in regard to who may have made a discovery. might stand in the way of advising hundreds or thousands as to how they might best winter their bees.

One year ago many hesitated and said we had not yet had a sufficient number of experiments, but now the journals have given us the reports of so many, all pointing one way, it does seem the matter should be called settled.

It is true that by the time this reaches our readers most of the feeding should have been finished up, and those who have decided upon risking natural stores, perhaps, are in for it; but to those who have colonies that may starve before April next, we would say, go at once, and give them food. During warm days in November, even, sugar syrup will be taken and sealed, if your hives contain plenty of bees, if they do not 'tis almost useless. As they must be fed rapidly, you should have for each hive a tea kettle feeder (described in these pages two years ago), and if you go right at it, you can feed fifty colonies in one pleasant day, if need be.

We have alone, unaided, this present week made a barrel of sugar into syrup, with which we amply supplied twenty colonies with winter food in less than three hours' time for the whole operation. With the exception of the twenty feeders and a box to hold the syrup, we used nothing but common household implements. The bees did not empty the feeders in that time, of course, but most of them were emptied during the night, and the next evening we made another barrel, and were it not for unfertile queens remaining in the upper stories of a few of the hives, we should have had our whole fifty-seven colonies fed up for winter in about three days' time, with the aid of the twenty feeders.

Mr. Editor, with your permission we would like to make a few remarks and requests to some of the correspondents in the last number.

To Mr. Pence, our hearty thanks; the sooner we can weed out bogus reports emanating from patent hive men, the better for our pursuit. When Mr. *Will R. King* answers that charge, we have still graver ones from different localities, that he will do well to consider.

In answer to an inquiry on the same page we would say that straw bee houses do very well, but they are not durable, and not as tidy as we like a honey house.

It seems that our friends across the ocean are aware of some of the advantages of sugar as food for bees in winter.

Mr. Adair's reply seems manly and honest until he says the section hive "is less liable to crush bees than any other frame hive." If he is really honest in that expression, he has been a patent hive man so long that he has forgotten the meaning of words. We hope Adair will excuse us for remarking that an examination of the reports do not show a clear claim to the section hive he is selling. If it is our dullness of comprehension, will others take a look at it?

Thanks to our German friend, Collen, for the result of his experiments. We are familiar with the same fact, but attribute the loss mainly to the evaporation of the water in the syrup, so there is no great loss; yet in our experiment of feeding our colony a barrel of syrup last fall, so much was evolved that the hive felt quite warm even on cold, freezy mornings, and the bees clustered out unless the most abundant ventilation given. To set free this large amount of heat, of course, much sugar must have been consumed as fuel, and we found such the case. We now regard it as most economical to have each colony fill their own combs.

Mr. Muth, we think, has had no experience with dysentery in his locality, and his bees winter precisely as they did with us before its advent. The arrangement he mentions seems to affect but little where it prevailed.

We do not think the dampness and mold could have given his bees *the* bee disease that has made such havoc.

Mr. J. E. Moore's article seems to us to have been written mainly (like all of Jasper Hayes's) with a view of calling forth inquiry in regard to his patent hive. Had he pursued his reading he would have found that Novice advised no protection for out-door wintering that would exclude the sun in the least, but only to keep off the cold winds as much as possible. Our readers, we presume, are all familiar with our views, and that we only think out door wintering tolerable when one can't do any better. It will be a long while before we conclude to buy a patent hive for the sake of double walls for out-door wintering. Is *your* title clear to your patent, Mr. M.? 'Tis not a healthy plan to advertise patent rights on these pages.

If Mr. Alley will make us a visit we'll show him how to make syrup by the barrel without boiling at all, and without cream of tartar, cider vinegar or anything else; and we will show him that the bees have a way of fixing it for their own use, just as they want it. If there is "bee disease" in his neighborhood, we fear his decision is a rash one.

"Farmers should be beekeepers." What a mild suggestion, and just see the "dollars" away down through the article, that they would make, if they bought the *Eureka Hive.*

Please, Mr. Hayes, tell us how many of your patent hives you have known tried that didn't give "'ary" pound of nice box honey. You are a minister, and should be fair. Now you have told the bright side of the story *so long*, is it not right you should give us the dark side, too? And while we think of it, do you know of no way by which large yields of honey could be secured without using your patent hive?

Mr. W., we beg pardon for doubting in the least that our friends would stand up for us in time of need. We feel sure now that we have many more than we have desired.

Doesn't Mr. Gallup forget that beekeepers of the present age always give their bees all the room and comb they can possibly cover? In fact we often overdo the business, and the extra combs are not used; and sometimes we put "an empty comb in the centre for the queen," *too fast;* we have all learned what effect that has. When the bees do hatch out fast, and the honey and pollen fills the combs unexpectedly, we all stand ready to give them our houses and barns at a couple of hours' notice. If it makes a difference in favor of honey to extend the combs horizontally, instead of having one row above, we shall all learn it in due time.

Thanks, Hedden, for several ideas, but won't you extract honey some if it be too thin, if you don't wait for it to ripen.

Our spiders have a way of making a web directly across the portico, and when we find a dozen bees caught heavily laden with pollen or honey, we get *madder* and *madder.*

Now, Scientific, you've gone and "spilt our ockepashion," and to be revenged, we insist that you give a full and complete description of how your hive is made, and all about it. for the two-fold reason, that we want to know "jist what we're a gettin'," and that some of us Yankees may want to make them at home. Now don't say, like Quinby, that you can't spend time to describe it, even if you do advertise it on the reading pages. We are 2,000 readers or more, and we wont ask a quarter of a minute apiece. Our thanks, nevertheless, for an attempt at lessening the expenses of beekeeping.

By the way, Mr. Editor, do you know how many valuable articles you picked up for October?

Bingham's plan is a whole problem, but we must think it could be improved. For instance, he would in time improve his bees so much that they would all run to swarming and swarm all the time. Secondly, his hives are too long without a laying queen, and if the new swarms had a set of empty combs they could fill them for the extra half a dozen times whilst they were waiting for the new ones to be built, and 6,000 lbs. from 181 colonies is only thirty or forty pounds to the hive, and — bless my stars, if I don't stop and go home, your next JOURNAL will be all NOVICE.

P. S.—On looking over the above, it really seems to read, some parts of it, as though we considered that we knew *all* about bees, but, Mr. Editor, it was not so intended, for our readers all know that our experience has been one of frequent reverses.

In the matter of wintering we have carefully weighed and examined a host of reports given in the back numbers since the "bee disease" first appeared, besides quite a correspondence from nearly all parts of our country, and after direct experiments of our own for two winters past we feel that we shall be excused if we do feel somewhat "at home" on the subject.

Reports, Experiences, and Opinions.

H. Goodlander, Leesburg, Ind., writes Sept. 29, 1873:

I have taken over 500lbs of honey from one colony of bees this season.

T. J. Doods, LeClair, Ia., writes Oct. 8, 1873:

Bees have done well this season. The Gallup twin hive has made me 300 per cent. over and above the standard hive. I would like to get a description of the oblong hive he tells about.

John Divekey, Aurora, Ill., writes Sept. 27 1873:

Mr. W. J. Ronald's statement in regard to wintering bees in the Sept. No. A. B. J.—I have wintered my bees on the same plan for nine years, and I must say that I always kept the goose alive that lays the golden egg.

H. B. Rolfe, Westfield, N. Y., writes Oct. 7, 1873:

Our honey season here was short. From forty five stocks I received 1,100lbs in three lb boxes, which I sold for 30c at my apiary. My bees wintered well, except the winters of '71 and '72, when I followed writer's instructions, (removed the honey-board,) and lost over half my bees.

R. L. Curry, Cincinnati, O., writes Oct. 11, 1873:

This has been a good season. My colonies averaged 160lbs extracted honey per hive. I can dispose of my surplus from 25c to 30c per lb. From experiments I have made I am satisfied we get at least four times as much honey by extracting, as we would comb honey. All our honey was gathered within twenty days. Some days averaged thirteen pounds to the hive.

Chas. D. Hibbard, Auburn, N. Y., writes Oct. 18, 1873:

My bees wintered on the Shultz plan in a clamp. Have given me 1200lbs box honey, and twenty-four swarms increase. Had thirty-six first of May. Basswood did not bloom this year with us. I feel that I have done well, considering the season, and the mortality of last winter that deciminated whole apiaries. I have such confidence in the method of wintering practiced by me that I shall hazard all my stocks in the clamp again this winter.

T. Smith, Kingsville, Ont., writes Sept. 27, 1873:

My bees, although they had a good start this spring, have done nothing all summer, and will not have sufficient stores to winter on unless fed. An exceedingly dry summer, killing out all the white clover, and a failure of blossom on the basswood (linden) trees is the cause. The basswood is our best pasture, and I expected at least a ton of surplus honey this season, but only took about thirty pounds, which I will have to return in the shape of syrup. Not one basswood tree in five hundred here had any bloom on them. I can't tell the cause, unless it was the severe cold of last winter.

A. W. Lundy, Frenchtown, N. Y., writes Oct. 8, 1873.

Bees have not done very well here as regards honey—the honey harvest being chiefly buckwheat. Stopped suddenly while in the hight of storing in boxes. The increase in swarms has been about an average for fair season. I have read so much about the loss of bees in wintering in different parts of the country that I thought I would just mention that no such loss in wintering has occurred here. Out of thirty swarms, I only lost one, and that was the only one that I neglected to give upward ventilation. I will also say that my bees were nearly all wintered on their summer stands without any protection.

Geo. W. Maryatt, Milton, Wis., writes Oct. 11, 1863:

I have two Vols. of the A. B. J., Langstroth on the Honey Bee, and Gleanings. By followlowing them I started last spring with an apiary of forty-five swarms with queens, and six that were queenless. Although this has been a poor honey season, I have taken 5,000lbs of nice extracted honey, and sold five swarms in July and August, and have about one hundred colonies now, all Italians, with honey enough in their hives to winter. I made twenty-five double swarms. They gave me six barrels of honey—3,000lbs in twenty days. Will swing my hat and hurrah for the A. B. J., Langstroth on the Honey Bee, and Gleanings.

J. F. Temple, Ridgeway, Mich., writes Oct. 6, 1873:

The season here has been first-rate since warm weather. I shall sell about 600lbs of box honey from eleven colonies and their increase, all that is left of one of the finest apiaries in southern Mich. Two years ago I had 165 colonies. Of that number I saved only four, in the two past winters. 161 died of disease. At times I have been quite discouraged, but am now determined to try again, but am fearful as winter approaches that I shall lose again. I winter on the summer stand. I am reading the back numbers of the A. B. J. for the purpose of learning it there is any better way I would willingly expend two hundred dollars, or twice that sum, if I could find how to winter safely.

J. D. Kruschke, Berlin, Wis., writes Oct. 11, 1873:

I am well satisfied with this season's product: bought thirty stocks in the spring, and increased them to sixty-one; obtained 1050lbs box, and 500lbs extracted honey. Shipped 900lbs to Chicago at 27c per pound. My extracted honey I sell in small quantities at 16c per pound, but sells very slow. I wish we had as good a market for extracted honey as Novice, we would then make but little comb honey. I consider this but half a season for honey. I see a report from R. Dart, of our neighboring city, Ripon. He calls the past season a poor one. It must have been where he resides, because there are no lindens in reach. My bees worked eleven days on it, and in that time some stored fifty pounds comb honey. Immediately after, we had buckwheat, from which they gathered honey steadily for four weeks. My best stock gathered ninety-five pounds and throwed a swarm (which was put into a hive filled with dirty comb) which gathered forty two pounds; so the profits from this hive, swarm included, amounts to about forty-two dollars.

THE AMERICAN BEE JOURNAL.

Chicago, November, 1873.

REMOVAL.—We would announce to our readers the removal of the office of the AMERICAN BEE JOURNAL from 25 W. Lake street, to No. 27 McCormick Block, at which latter place we are pleasantly and centrally located, and where we shall be pleased to see all friends who may favor us with a call.

IN VIEW of the present serious financial disturbances and the fact that the fall of the year is just the time to settle up old accounts, renew subscriptions, etc., we feel that an appeal to those of our subscribers who are in arrears to liquidate their indebtedness to the AMERICAN BEE JOURNAL will not be met with indifference.

The interest which has been manifested by our friends in the past will, we feel assured, be expected at the present time, when every business man requires every available dollar for the successful conduct of his business. The stringency of the money market which affects one position of the world, must necessarily communicate itself ultimately to every other community, and remittances are never so gratefully received by the publisher as when a financial crisis has disturbed the ordinary course of business. We shall therefore fell pleased to receive all arrearages, and new subscriptions either single or in clubs. Those who are in arrears will need no second notice to remit what is due in *whole or in part.* And we reiterate our sincere thanks to all our friends for past patronage. We shall endeavor to double our present circulation of the A. B. J. during the coming winter and extend its influence more widely than ever before. We therefore most earnestly solicit our friends and patrons to use their best efforts to extend the circulation of this Journal. Let each present subscriber endeavor to get at least another.

Specimen copies for subscription purposes sent free to all who desire to co-operate with us.

WE HAVE received the October issue of the *National Bee Journal*, which is now published by Mrs. Tupper.

THOSE of our readers who do not preserve the A. B. J. in files, and who have Nos. 1 and 7, Vol. 7, and No. 1, Vol. 2, may find a purchaser by addressing the AMERICAN BEE JOURNAL.

SHOULD the next meeting of our National Bee-Keepers' Association take some action in reference to the World's Fair to be held at Philadelphia, Pa., in 1876?

IT IS with no little regret that we read in the last number of the *Beinenzeitung* of the postponement of the annual meeting of the German Bee-Keepers, which was to have taken place on the 12th, 13th and 14th of September. It has been postponed until 1874, owing to the sickness prevalent in many portions of Germany.

WANT of room compels us to hold over the following interesting translations from German periodicals devoted to bee culture:

"Dzierzon"; "Extracts from History of Beekeeping in the Grand Dutchy of Hesse, in course of publication in 'Die Biene'"; "An Imprisoned Queen"; "The Impregnation of a Wasp"; "Concerning Strengthening Swarms with Combs of Brood."

WE acknowledge with thanks the receipt of "The Report of the Commissioner of Agriculture, [Frederick Watts, Esq.,] for 1872." The report possesses more than ordinary points of interest, several very valuable entomological and botanical articles appearing in its pages, while the statistical tables, etc., are comprehensive and exhaustive, rendering the work as fine a specimen of national literature as has been issued for years.

WE WERE pleased to receive a call a few days since from Mr. Adam Grimm, of Jefferson, Wis., one of the most extensive bee-keepers in this country. Mr. G.'s business in this city was in connection with the sale of some 15,000 lbs. of honey comb and extracted honey which belonged to himself and his neighbors. He disposed of his large stock in hand to the Chicago Honey Company, with the managers of which he is personally acquainted. He refers to them in the most encomiastic terms, and speaks of their ability and business qualifications as being worthy of the fullest confidence

and regard. The firm is under the management of a well known lady, formerly Mrs. C. O. Perrine, favorably known to most bee-keepers in the west.

Mr. Grimm thinks that he will be able to ship at least 50,000 pounds of honey to this market during the next season.

Clark & Harbison, of San Diego, Cal., have made quite an extensive shipment of honey to this city. They sent one car-load containing 21,000 pounds comb honey, which is the largest shipment ever made at any one time to this market. They realized 28c per pound for the whole amount, which may be considered a good sale for so large a quantity.

This firm is located in southern California, about 500 miles south of San Francisco. They have 1500 colonies scattered over quite a district of country. Mr. Harbison informed us that they had obtained over 60,000 pounds comb honey this season from their southern apiaries alone.

Honey Localities.

While there are few places where a stock of bees will not manage to get a living, we believe that in order to make bee-keeping a profitable pursuit, attention must be paid to choice of localities. It is so in other departments of rural industry. Some districts are specially good for grain growing, others for dairying, others for sheep husbandry. As a matter of interest, a sort of pastime in natural science, it may do to keep bees in towns and cities, but they will not reward the apiarian with much surplus honey, and there will be times when the grocery and confectionery shopkeepers and their customers will vote them a nuisance, especially if they are Italians, for if so, they will forage wherever any sweets attract them.

To test the difference between keeping bees near a town of about 8000 inhabitants, and having them wholly in the country, we last season took an average stock to board with a farming friend, and it gathered just four times as much honey as the best of our in-town stocks. We have a bee-keeping acquaintance who lives on the edge of an extensive cranberry swamp, and his bees do better than those of any other apiary in the whole region. In very early spring, and even late in the fall, the bees appear to find something to do in the swamp. Our Minnesota friends owe their extraordinary success to the vast stretches of basswood near which they live. We would say to all who contemplate going into bee-keeping as a business, choose your locality wisely. It will pay on a small scale to keep bees in many places, where it would hardly be advisable to keep them extensively.

The Chicago Honey Market.

We give below the receipts of three of the principal honey-dealing houses in Chicago since August 1, 1873. Large as have been these receipts, they do not include but a portion of the honey which has been received in this city during the period of time indicated, and do not comprise the extensive sales of the commodity in the city by grocers, farmers and commission merchants. The great demand for the staple this season shows an almost unparalleled activity in the local market, and the demand is largely in excess of the supply. The quotations of sales in this market for the past three months tend to indicate that Chicago is the greatest honey market in the whole West, if not in the United States.

From August 1 to November 1, the receipts were as follows:

G. Baumeister & Co., No. 231 W. Randolph St., received 29,000 lbs. of honey.

In comb, 9,666 lbs. @ 27c	$2,609 82
Extracted, 19,334 lbs. @ 14½c	2,803 43
Total	$5,413 25

Chicago Honey Company, No. 360 Wabash Ave., received (from Oct. 13) 37,272 lbs. of honey.

In comb, 22,100 lbs. @ 28c	$8,988 00
Extracted, 5,172 lbs. @ 15c	775 80
Total	$9,763 80

C. O. Perrine & Co., S. E. Cor. of Market and Lake Sts., received (from Aug. 1) 90,000 lbs. of honey.

In comb, 75,000 lbs. @ 27c	$20,250 00
Extracted, 15,000 lbs. @ 14c	2,100 00
Total	$22,350 00

Total number of lbs. of honey	156,272
Grand total amount paid for same	$37,527 05

North American Bee Keepers' Society.

A committee from the North American Bee Keepers' Society is in personal communication with the superintendents of various railroads for the purpose of securing reduced rates of travel over such roads for those who expect to be present at the convention which has its next session at Louisville, Ky., the first Tuesday in December. We have delayed the Journal several days beyond its regular date of issue in order to obtain the report of this committee, from which as we go to press we have received no definite report of their success. We urge upon all those interested in bee culture to be present at the convention.

Plethora.

We have a great press of correspondence on hand, now that bee keepers are beginning to have some leisure. Though we are willing to resign almost the whole of our space to them, even that is insufficient, and we must ask their kind indulgence and utmost patience.

[For the American Bee Journal.]

The "He-Bees."

Friend Clark:—In your September Journal you came very near, as you say, indulging in "cussory remarks" over some "He-bees" that came at you about the same time that the *she-bees* fixed you so you "*could not see it*," and by way of getting clear of them you hand them over to me. You say: "When we got over our fit of vexation, we began to wonder whether it really was an error after all. We saw that the article was a translation from *Bienenzeitung*, and knowing how far Germans are ahead of us in the science and art of bee-keeping, didn't know but they had succeeded in producing a species of 'he-bees that would gather honey, &c.'....The 'happy thought' soon had to be dropped, but it occurred to us to commend this point to our advanced and advancing friend Adair... Now here is a 'new idea' for him. Let him try his hand on the 'he-bees' and train them to search for honey. It would end all our trouble about drone-comb, multiply our working force very greatly, and the apiarian world would pronounce blessings on the man who invented *drone workers*.

I took the matter under advisement, and have been asking myself ever since "*why not*"? I find that Von Seibold examined some Italian bees at Constance, Germany, in which the peculiarities of the two sexes were singularly mixed up. "The mixture of external characters was manifested sometimes only in the anterior or posterior part of the body, sometimes in all parts of the body, or only in a few organs. Some specimens presented male and worker characters on the two sides of the body. The development of the internal organs were singularly co-related with those peculiarities of external organization." (See *Gunther's Zoological Review* for 1864) But Siebold says these were *hermaphrodites*. Suppose they were; are they any more abnormal than the workers that differ so widely from the perfect queen, or true female? He ascribes their production to the imperfect fecundation of the ovum. That may or may not be so. But do we not see a greater variation produced where fecundation is supposed to be perfect? What causes the tongue and mandibles of the worker to take a different shape from those of the queen? the posterior *tibia* to be concave instead of flat; adds to them the fringe of hairs that forms the pollen-basket, and the auricle and pectu that enables the workers to use their *tibia* as claspers; what shortens their abdomens by obliterating one segment; changes their color; makes the sting straight instead of curved; develops the wax pockets, and gives the power of secreting wax; and so changes the ovaries that they are incapable of yielding perfect eggs?

But more astonishing still, the workers have no instincts common with the queens. Their very passion, tempers and manners (if I may so call them) are different. The imaginative bee-keeper sees in his queen a capacity for love, jealousy and vengeance, and she has no inclination to labor, nor the capacity for it. The worker is exempt from the stimulus of sexual desire, but are incessant in the nurture of the young; are industrious and skillful. They collect honey and pollen; elaborate wax, and nurture, rear and defend young queens, which the old queen hate, and are said to pursue with the most vindictive fury, even to destruction. Yet these workers are as far from perfect females as the males Siebold saw are from perfect drones, and a worker drone would be no more anomalous than a worker female.

Just as I reached these conclusions I received the October number of the French Journal *L'Apiculteur*, and I find in it a paper read by Mons. E. Drory before the Society of Apiculture of the Giraud and Linnæan Society of Bordeaux, France, entitled "*New Observations on the Meliponas*." He finds, in the species *urussu mirim*, that the workers secrete the wax on all the five *dorsal* segments of the abdomen, that is, *on the back* instead of under the abdomen. It is not secreted in "pockets" under the segments, as in our bees, but covers the entire back as a skin. Among these bees the drones are *smaller* than the workers, and "*produce also wax on the back like the workers*," ("*Prodint aussi de la cire sur le dos de la meme*

maniere que les ouvrieres."), and says, "*it is evident that the males work like the workers in the hive*" ("Il est donc evident que les males travaillent comme les ouvrieres dans l'interieur de leur habitation"). I have translated the entire paper for the next number of the *Annals of Bee Culture.*

So you see that Mr. Drory has forestalled me. *He has found drone workers* in a very nearly allied species of bees, and thus proven that it is not impossible to have *drone workers*, even among our honey bees, if one would take advantage of such abortions as Von Siebold notices, and breed from queens producing such.

D. L. ADAIR.

Hawesville, Ky.

[For the American Bee Journal.]

Mystery Not Solved Yet.

MR. EDITOR: I was very much disappointed after reading over the proceedings of the North American Beekeepers' Association that assembled at Indianapolis last December, to find that there was not some beekeeper there that could stand up before that body of beekeepers that represented our land from Florida to Maine, and from Maine to Alaska for what I know, and tell us the TRUE cause of this dysentery that visited our beehives the spring of 1872. There has been a good deal of guess work about the matter, and the question is, who is the nearest right. This young bee theory is entirely exploded with me, it has nothing to do with the case whatever as I understand it. The bees and queens are of the same nature exactly that they ever were, and if the queens ceased to breed so early in the fall that it left nothing but old bees in the hives for winter, and that was the cause of the disaster, why did not this happen long before now?

Of all the theories that have been brought up, and the one that looks the most natural to me, is an article from the pen of H. Alley, Wenham, Mass., vol. 8, page 93, A. B. J., that honey dew was the cause of it, in his opinion. Shortly after, Dr. Bohru, of Alexandria, Indiana, in his address to the beekeepers of that place, gave it as his opinion that honey dew was the true cause.

I have been keeping bees for some time and am anxious to learn all I can about their habits and requirements, but would give more to know this one thing than all their other hidden secrets combined. Hosmer may ask why the honey dew has not made its destruction before? There might have been an uncommon amount of honey dew that year all over the country. It did not sour the honey, but had a tendency to physic the bees.

Bees suffered very badly here in this locality with the disease this last winter; there was not hardly enough left of them for seed. *It* was no mystery about it this time, for the honey they gathered last fall was black, sour stuff; it looked more like New Orleans molasses than anything else.

Novice will say to this, "Bless my soul, haven't we told you that bees never die when fed on sugar syrup." I don't believe, as a rule, that we have got to feed our bees on sugar in order to keep them alive; there may be times when it may be beneficial. Nor I don't believe that man has got to be wiser than the Almighty, although there are some who are far superior to him—in their own estimation. If bees cannot live on honey, what were they made for?

Mr. Editor, I want to ask you one question. Is the king bird guilty of catching worker bees, or not? If he is, shall we not shoot him? I have been told they caught nothing but lazy drones; if that is true, then long may he live. I have allowed them around my apiary at times, and at other times would follow them half a mile to shoot them, and keep it up until my conscience smote me, and then would say to myself, do they catch bees or not? I never have caught them in the act yet, for certain, and am not fully satisfied in regard to their natural disposition. If anybody does know, may they let their light shine.

Bees have done well here this season; have paid 100 per cent. on money invested. May the old AMERICAN BEE JOURNAL live as long as bees continue to live on honey; but when it gets so poisonous that neither bees nor man can live on it, then WE shall not feel so proud of it as we do now.

DAVID MARSH.

Illinois, Sept. 28, 1873.

THE Queen-bee feels an instinctive horror at the sight of a royal cell. HUBER.

Honey Markets.

CHICAGO.

Choice white comb honey, 28@30c; fair to good, 24@28c.

Extracted, choice white, 14@16c; fair to good, 10@12c. Strained, 8@10c.

CINCINNATI.

Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey 15 @ 35c. ℔ lb, according to the condition of the honey and size of the box or frame.

Extracted choice white clover honey 16 cts. ℔ lb.

AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY W. F. CLARKE, CHICAGO, ILL.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

VOL. IX. DECEMBER, 1873. No. 6

[Translated from the Bienenzeitung.]

The Impregnation of a Wasp.

On the 29th of September, last year, a bright, pleasant day, Herr Eppers, my assistant, an active young man, who then was learning bee-keeping with me, and was of very great help, was watching the coming and going of the bees in his father's garden. Suddenly, from above, fell on the ground before him, two wasps. A strong, large and thick-bodied wasp was setting upon an elegant and thin-bodied one, and had the point of its hind body inserted into the hind body of the lower wasp. The body of the lower and smaller wasp greatly distended, and embraced part of the other. The upper and larger wasp endeavored with all its power to free itself; bit the lower one with its jaws in the breast, and struggled wildly to get loose, while the lower one sought to get a firm hold on the earth. At times the larger wasp would slide from the other, whereupon both of them would try with their feet to grasp the earth, and endeavor to sunder the embrace. For five minutes he observed these proceedings with great interest, when it occurred to him to put them in a glass case, and watch their further proceedings. At last, after struggling for fully ten minutes, they were able to sunder their embrace. The large wasp, apparently, was uninjured; the body of the other was, however, widely distended, and had a white shred hanging from its opening.

When Herr Eppers came to me, on the 30th of September, he brought this pair with him. The wasps had been fed on honey, and were in a very healthy condition, and very lively. The large wasp was outwardly uninjured, and was very active, but one could see that the opening in the body of the other had not yet assumed its normal size, indeed, it appeared to me as though a portion of the body had been torn away. On the first of October, despite of feeding, I found the smaller wasp dead under the glass, while the large one remained sound and healthy. It grieves me that Herr Eppers did not kill them both while embracing each other, and fasten them upon a needle.

Not being well acquainted with wasps, I am in doubt as to which is the queen and which the male wasp. I take the larger one to be the queen, because, in the spring, in unoccupied hives and elsewhere, I have found a wasp's nest begun and containing eggs, with only one wasp about, which resembled much the larger of the pair. Hence the smaller one must have been the male wasp. The kind of opening in its abdomen, and its death, despite the food furnished, decides the matter in my mind.

To me, this present occurrence is of the greatest interest; for, if my above conclusions are correct, the wasp queen, in her flight, mounts the male wasp, and this leads me to believe that, of which fact I have had some slight doubt, the queen bees, when about to be impregnated, mounts the drone. On this account, I would with a certainty, like to know whether the larger wasp was the wasp queen, and will gladly send these two wasps, carefully preserved in spirits, to any one able to give me the information.

The wasps were very troublesome here last year. When removing the surplus honey from my hives, they were continually sailing around me, in large numbers, and entered the open hives, and at once attacked the honey combs. Upon one frame of sealed honey I found, while I held it in my hand, five or six wasps, which, in a moment had their heads in the cells sucking the honey, so that I was able easily and quickly to destroy them with my fingers.

In my working house, where the combs were assorted, they forced their way through every crack, and were in the room in swarms. When I would enter this house in the morning at seven o'clock, I found the windows covered with them, notwithstanding the temperature was lower than it had been for many days, and they were here destroyed by hundreds, yes, by thousands. But this was not accomplished without being stung. The sting of the wasp, —although the sting does not remain in the wound, like that of the bee,—is much more severe, and continues much longer. After the

lapse of from two to three days, one feels a burning sensation at the place of the sting.

The wasps last year did my apiary great injury, namely, after they were unable to get the honey. With the bountiful yield I had the other year, I gladly gave the wasps a small portion of the honey, and allowed them to clean the dead bodies of the bees destroyed, in removing the honey; but when they began to attack and murder the living bees, my feelings toward these marauders changed. With almost fabulous activity they surrounded the hives and attacked the largest and finest bees, with wonderful speed gnawed off the wings and tore open the bees, for the purpose of getting at the honey bag. They flew with their plunder to a neighboring tree, and there consumed it.

C. J. H. Gravenhorst.

[For the American Bee Journal.]

Cursory Remarks.

In preparation for swarming, the colony loses from one to two weeks' time in comparative idleness. A large body of the colony clusters upon the outside of the hive. This in a season when honey abounds in the fields.

When the swarm has issued, the working force is greatly diminished, and finds employment in caring for the brood that is to replenish the hive. If, at the end of two weeks, or about that time, a second swarm issues, the old colony is much reduced in numbers, but must wait for the product of the new queen, delaying honey gathering, by the newly hatched brood, one or two weeks more.

This will carry us so near through the month of June, as to bring us near the close of the white clover honey harvest. This has occurred during the period in which white clover blossoms have been most abundant. In the two weeks spent in idleness, during the preparation for swarming, thirty to fifty pounds surplus might have been stored. The two weeks lost, from the weakened state of the colony, thirty to fifty pounds more is lost. If, from the room given, there had been no disposition to swarm, and the energies of the whole working force had been given to gathering and storing honey, instead of three colonies, and no surplus honey, there would have been one colony, with 100 pounds surplus.

This surplus would be worth $25.00 or $30.00. The two swarms might be worth $10.00.

The second year we have again 100 pounds of surplus in one hive, six new swarms from the other hives, amounting now to nine. The third year the large hive gives again 100 pounds of surplus, and the product of the other is eighteen swarms, amounting to twenty-seven hives. Suppose each old colony has made $2.00 worth of honey annually, as Mr. Quimby estimates, we have $26.00 of surplus, and twenty-seven hives of bees.

The fourth year we again obtain in the one hive 100 pounds surplus, $30.00. Of the twenty-seven hives, some three or four starved in the winter. But twenty-three or twenty-four start pretty fair in promise, and double their number, forty-six or forty-eight colonies. Twenty seven was a large stock. Now the field is so full, that but a very small number get enough for winter, and three-fourths or nine-tenths of them starve to death. In some cases, I have known the whole apiary to perish.

If there was a full supply for the twenty-seven, sixty pounds for the breeding and wintering of each colony, (1620 pounds,) besides ninety pounds for surplus for the nine old colonies, ten colonies in the large hives would have gathered it, and given 1000 pounds, instead of ninety pounds in surplus.

Your correspondent, Novice, writes, "Please, Mr. Hayes, tell us how many of your patent hives you have known tried, that didn't give 'ary' pound of nice box honey. You are a minister, and should be fair. Now, you have told the bright side of the story *so long*, is it not right you should give us the dark side, too? And, while we think of it, do you know of no way by which large yields of honey could be secured without using your patent hive?"

I find the above extract in the American Bee Journal for November, in a communica- from Novice. Notwithstanding the mistake in the name, its connection with the Eureka hive, and with the ill-concealed prejudice of the writer, leave little room for doubt that Hazen instead of Hayes was meant.

Novice's including his word "ary" in quotation marks, "that didn't give 'ary' pound of nice box honey," didn't and "ary" have their origin with Novice, and not with us. Novice asks for the report of the unsuccessful, as well as the successful colonies, in our patent hive. If we give such report, and in comparison of the successful with the unsuccessful, to make our subject clear, will he not say of this article, that it is "like all of Jasper Hayes's," with a view of calling forth inquiry in regard to his patent hive.

Answer: the first four colonies in my Eureka hives, were placed in the hives in 1866 They gave me what I thought a large surplus the first year, 1866. In 1867, they gave 500 pounds of surplus, and two of them gave two swarms each. The honey was mostly white clover, and sold for about $150.00. This same year, 1867, I took ten empty hives to a neighbor, three or four miles distant, and he placed in them ten swarms of what he called Italians, at $5.00 per swarm, $50.00. I took from the ten new swarms something more than 300 pounds of surplus, enough to pay $5.00 per swarm, and nearly five or over four dollars each for the hives. So far worked very well. Come to so greatly increase

the number, the whole gave but little more than the few gave the year before, and several perished.

I have no known reason to doubt that four or five good colonies might each have collected that amount, 125 pounds each, had they the field to themselves. Possibly, ten might have done it, and given 1250 pounds. But twenty would require so much of the product for breeding and stores, that but little surplus would be gathered, and some weak swarms starve to death.

I now have no reasonable doubt, that, with the number of colonies suited to the product of the field, from 100 to 200 pounds may be secured, averaging from 100 to 200 pounds according to the field. Farmers will not be likely to procure honey extractors, and use movable comb frames, as a rule; and, from my experiments, thus far, I have no doubt that the above results may be reached by hives with bars, and little care required, but the introduction and removal of movable partitions, and surplus boxes in their season.

I have now returned from my residence in Albany, to Woodstock, Vermont, where most of the strength of my days have passed, and all communications to me should be addressed accordingly, Woodstock, Vermont.

My circular will be sent to any persons requesting it, with their address given.

JASPER HAZEN.

Woodstock, Vermont, Nov. 25, 1873.

[Translated from Kleine's Centralblatt.]

One-Eyed Bees.

Should the gentle reader ever examine the head of a worker bee, he will find in the middle of the face the two antennæ, and under these, at the lower edge of the face, the two strong bone-like jaws, between which, drawn up in the mouth, is the proboscis. On both sides of the antennæ, along the sides of the face, and stretching toward the top of the head, are to be found what are called the compound eyes. These are also called net-formed eyes, because, when examining their surface, through a microscope, they have, in some degree, the appearance of the meshes of a net. As these net-formed eyes of the worker bee do not, like those of the drone, unite at the top, there is a space left bare at the top of the head. Here are located, hidden under hairs, the so called single-eyes, which every one takes for true eyes, while there is as yet much doubt as to whether the so-called compound eyes are really eyes. Barth, for example, holds that they are not eyes. The single eyes form a triangle with each other, whose apex, pointing downward, and in the neighborhood of the antennæ, is located on the forehead and crown of the head. The eye at the apex of the triangle is placed at the border of the forehead and crown, and the two eyes forming the base of the triangle are placed fully on the crown of the head.

After this brief analysis of the eyes of our industrious honey-gathering insects, the reader will be prepared to understand the description of an interesting abnormal development of the head of some worker bees discovered by me.

Some days back, I was engaged in dividing a too populous colony. On the perforated band which closed the juncture of the full and empty hive, I found a bee which at once attracted my attention. Its head was unusually small, and to the most superficial examination showed great deviation from the usual form of the head. During the day, and for some days afterward, I found more specimens of these little headed bees, some dead and some living. In all, I found six, which, doubtless, were from the same queen, as they had the same color (hybrid Italians), and were found before the same stock. After as careful an examination as I was able to make with my lens, I will now give as full an explanation as I can.

Bee No. 1. Above the two antennæ, and near to them, was found but one compound eye, in the form of a half-moon, which almost surrounded both the antennæ and the sides. The free space, in the center of the space, was greatly narrowed, likewise the forehead and crown; at the sides of the head, where usually the compound eyes are, were only small, vacant rings.

The large compound failed, as Bee No. 5 will show by the joining of the two eyes into one, which has its place upon the forehead, and thus drew themselves away from the sides. No lines, which the union might have left were to be seen, on the crown of the head. Above this large, half-moon eye, was still to be found the single eye, at the apex of the triangle, but the two forming the base were not to be discovered. All the other organs of this bee, as the antennæ, jaws, tongue, were present, and normally developed. The diversion appeared only in the organs of vision.

Bee No. 2. The head of this young bee, thrown out by the inhabitants of the hive, resembled the one just described; the one, large, compound eye, was placed over the antennæ, and the one, single eye, was there.

Bee No. 3. Just as No. 2.

Bee No. 4. Just as No. 2.

Bee No. 5. In this example a marked difference is to be found between the compound eyes. A separating line, as with drones, perfectly divided the eyes from each other. They were yet so nearly joined, and the line on the crown of the head was so faint that, to a superficial observer, it had the appearance of one eye. The single eyes failed entirely.

Bee No. 6. This bee had really but one compound eye. It was at its true position on the left side of the head. On the right side, the other eye was absent entirely. Of the sin-

gle eyes, but two were present, namely, the one at the apex of the triangle, and the one at the left of the base, while that on the right was absent.

I hope to be able to carefully preserve these specimens, and exhibit them at the convention.

W. Luhman.

Bardowick, July 8, 1873.

[Translated from Die Biene.]

Surrogate.

In No. 3 of the *Die Biene*,* I described how, for three years, in my poor locality, I prevented my swarms from starving during the winter, and enabled them to be strong and populous in spring. This last winter of 1872-73, I lost my two finest queens by the starving of the bees. The sealed food became solid, which occurred before in unsealed cells, and rarely in them. The food was made as usual of candy and potato-sugar. I hence cannot so unqualifiedly recommend this preparation, and am not answerable for having recommended it, because it served me well for three years. When I have to feed this winter, I will use any material or use malt-syrup. I rejected the dry food, for the reason that it was not so very agreeable during the cold winter months to watch the swarms, and furnish them with the needed food, letting out of view altogether the disturbing of the bees. * * * * * Moreover, the dry feeding must not be delayed until *the cold winter months; but should be began* as soon as the supply of honey in the fall ceases, so that there may be as little consumption of their supplies of honey as possible. By dampening the food with water, it will be more attractive to the bees. I use at times pure candy, again, mixed with potato-sugar. * * * *

E. Klipstein.

Auerback, Aug. 1, 1873.

The Moth-Miller.

We regard the fear entertained of the moth-miller as misdirected, and more imaginary than real. As long as a stock is strong and in good condition it is safe, but should it be suffered to decline from overswarming, loss of queen, or other cause, the eggs of the miller are allowed to hatch in the exposed combs, as the bees die off from natural causes the moth-worms increase, and, if not dislodged, finally gain entire possession. The female miller is much larger than the male, and resembles in color a sliver from a weather-beaten fence rail. During the day she may often be found sticking about the cover of the hive. Toward evening she will be flitting about the entrance, and if the combs are not covered with bees, or cracks and crevices can be found, or litter is retained on the bottom board, she will be at no loss for a place to deposit her eggs within the hive. There can be no "moth-proof" hive; but if the entrance be on one side only, and the bottom board is inclined, the bees have all the protection against these intruders that a hive can afford. *Moth-proof* hives (so-called) are owned either by persons of little incalmation, or sold to such by unprincipled venders, as well-informed bee-keepers know how to prevent the ravages of the moth, and also know for in warm weather more or less moth eggs are present in the combs. Hence, a real moth-proof hive must also exclude the bees. During the summer months, if a mixture of vinegar and water, well sweetened, be placed at night among the hives in white dishes, many millers will be drowned. Moth "traps" form the basis of a considerable trade. Some of these might be well enough if they were emptied, and the worms destroyed every week; but as they are usually neglected, they become "moth-nurseries" instead of traps. Worms may be trapped early in the season by laying pieces of shingle or split elder, the hollowing side down, upon the bottom board. The worms will retreat under these to spin their cocoons, and must be destroyed once or twice a week, or they "take unto themselves wings and fly away." The moth is less troublesome in large apiaries. The sprightly little wren, if encouraged to build its nest near the hives, will destroy myriads of worms and insects. They are easily attracted, by putting up boxes made three inches square, with an inch and a half hole for an entrance.—*Rural Sun, Nashville, Tenn.*

* For Translation of Article alluded to, see October No. 1873, page 77.

Honey Markets.

CHICAGO.

Choice white comb honey, 28@30c; fair to good, 24@28c.

Extracted, choice white, 14@16c; fair to good, 10@12c. Strained, 8@10c.

CINCINNATI.

Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey 15 @ 35c. ℔ lb, according to the condition of the honey and size of the box or frame.

Extracted choice white clover honey 16 cts. ℔ lb.

Work quietly; avoid sudden jars; never fight your bees, and always *keep cool.*

[For the American Bee Journal.]

What Killed the Bees?

There is one,—Mrs. Tupper,—who at last agrees with me. She says; "We are among those who believe that causes which may be prevented are responsible for the great losses in wintering, and not disease. We have been all the season collecting facts upon this subject, have visited many persons who lost bees last winter, and have failed to find a single instance of any disease not caused by an improper state of the hive, or want of care in the plan chosen to winter, or too much honey in proportion to the bees. No doubt bees die of dysentery, but this is caused by improper treatment."

I agree with this. More than a year ago, I advanced these views. I admitted that dysentery might have killed the bees, but suggested an improper condition of the hive as the cause. The experience of the last winter and spring has added additional proof that the views then expressed were correct. Like Mrs. T., I have made diligent inquiry, and studied cause and effect with the best of my ability, and now repeat my conviction that cold is the cause of failure to winter, dysentery being an intervening link. I am pleased with the idea, because, if correct, we can obviate or remove the cause easier than if it was the quality of honey fed. I know of nothing to produce dysentery, except cold weather. I have inquired if it is known in the extreme south, and if bees were lost there last winter,—I mean so far south that they did not feel the cold winds severely. I would inquire further, if they did not suffer according to their latitude and locality, till the extreme north or south was reached?

I shall not attempt to prove that all bees that die, do so of dysentery, but that the general fatality was produced by cold. The quality of food or honey has less effect than is usually supposed.

In addition to what I said on this point, Mrs. T. relates the circumstances of a yard of bees that were divided. One-half were kept warm, the other exposed to cold in an outhouse, and by moving. One division suffered, and nearly every one died of dysentery. The other half, that was warm, all wintered safely. Here was a case where the honey must have been all of the same kind and quality.

I have fed a colony with honey two years old, after scalding it, that had soured, and could discover no difference in that respect with those that stood by their side, and consumed their own honey.

"Novice," and other writers, claim that syrup of sugar is a preventive, and will save the bees from dysentery. I wish there was nothing to disprove it. Mr. Elwood, of Herkimer Co., in this State, fed several stocks that were destitute, one year ago, with that alone. They were badly affected with that disease, just the same as those having their own honey, and exposed to the cold, the same. I fed a colony with loaf sugar, that, when exposed as others were, was affected the same.

"Novice," when he fed his bees with the syrup, doubtless took a little extra pains for warmth, without counting the advantage of it in connection with the feed. Now if cold is the cause of the beginning of all the trouble, instead of the kind of food, let us try and make the thing certain, and if it is not the cause, let us try and be certain of *that*. No great importance should be attached to guessing or believing,—which is equivalent,—but let us have proof that all can comprehend.

Another point has been discussed pretty freely: The age of the bees. In some places and situations, or peculiar circumstances, they cease rearing brood before the 1st of September, and, by the beginning of winter, every bee must be at least three months old, and dies in consequence. Bees did just so years ago, without the fatal results of the two last winters. We have to look further. I will admit that young bees are preferable, but not all important. It is admitted by all that understand the subject, that bees wear out very fast in warm weather, when they fly. I heard one man assert in a convention of beekeepers, that old bees, or those that were wintered through, were worthless for any labor in the hive in the spring. I have some testimony to the contrary. I have introduced Italian queens to black colonies in October. Black bees were left in these colonies in April and May, some lasting till in June, working as industriously as any, bringing in pollen and stores. But to prove it still stronger, lest some might say these queens were hybrids, and the black bees were young, I will say that several of the queens proved drone layers, and, in such cases, not a worker was produced before near the last of May. The middle of April, these drone layers were removed, and prolific queens introduced. These bees, six or eight months old, nursed the brood, and reared the stocks into good ones, that sent out swarms, only a little later than the average. The age of the bees did not, in these cases, seem to make them worthless.

No doubt other causes destroy bees sometimes, but I have yet to find the first case where a large number, with sufficient honey, was lost, and cold not at the bottom.

We all know that they will stand any degree of cold for a short time, when there are bees enough, and their honey properly distributed. But protract the cold for months, as it was last winter, and they cannot. An even moderately cold temperature is also fatal, without warm changes to equalize it. I know cases where over fifty were put into a room, and the temperature at no time below 28° Fahrenheit and not above 37° for the whole winter. The few in the whole lot, not dead when taken out,

were in the worst possible condition, and failed. Could the temperature have been up to 60° a few times, all would have been well. Bees confined in a close room, will always raise the temperature a little above that out of doors. In rooms adjoining one where there was fire, or they had access in some way to artificial warmth, they wintered well, without an exception, as far as appears. When buried, or covered well in a snow bank, if the honey was properly distributed, and a good strong colony, and not exposed too early to fly in the cold winds, they did very well, and this may be the next best situation.

Many bees that were in a cool situation, but not quite cold enough to freeze them, and no warm days to intervene to invigorate them, did not, of course, start any brood in early spring or late winter, as they do where they have ordinary spring weather; such being set out the first pleasant day, perhaps only moderately warm, the light inducing many to fly that were not thoroughly warmed, perished. The weather remained moderate for only a day, perhaps. The first hour of sunshine would bring out more bees, only to perish in the cold wind. Many colonies becoming so much reduced, in three weeks, as to be unable to warm up a space of comb large enough to rear brood to amount to anything, became discouraged, and swarmed out. Nine cases in ten, they left honey and a small patch of brood. It was the effect of cold, nevertheless.

In other cases, where the bees were kept in till late in spring, one month later than usual, until the temperature of the weather had warmed them in-doors, as it usually does, brood was started in many of the combs, as there were bees enough to nurse and protect it, and when set out a less number were lost by chilly winds. Such as were lost, were then replaced by the young bees hatching. These bees remained strong, and ready to take advantage of the early yield of honey. While those reduced ones,—such as were not entirely gone,—required the whole summer to get into condition for another winter.

Now, is there not enough in these hints to point out the way of escape?

Let us prepare for any emergency that the coming winter may bring. Keep the bees warm and dark at any rate. If uniform, perhaps 45° will be nearly right, if not, experience will tell us. If much below that, it ought occasionally to go above to balance. Yet too much heat should be avoided, as they waste by leaving the hive. Don't guess at the degree of temperature; a thermometer costs but little, and may pay many times to get it. It may be a guide to others. Investigate, and report results.

M. Quinby.

St. Johnsville, N. Y.

P. S.—Instead of sending the foregoing when ready, a fortnight since, I have waited to see if something would not appear in the Journal on this all-absorbing subject at this time.

On page 108, Mr. Rhey inquired: "What made the bees die off so the last two winters?" Mr. Hoagland says: "That is just what I want to know. I attended the N. A. B. C. last winter, to learn, if possible, a solution of that question, but returned no wiser than I went." This seems to imply that there was no *satisfactory* solution offered, and, in fact, there was none that was wholly so.

Let us suppose the herbage was all killed in a certain latitude the middle of June. What killed it? Mr. A. says: "I think it must be the effect of the cold rain and snow that we had last winter; the ground was in a bad situation, wet or dry, or something; the herbage was too old, or too young, or the gases that nourished the plants made them unhealthy." Mr. B. thought it much more likely that the hard frost did it all. "It was colder for several days than ever known before at that season of the year." All knew of the frost, and finally concluded that such a degree of cold would kill tender plants. Is there any parallel?

"Novice," on page 113, says: "We cannot help feeling that Mrs. T. reads the journals to as little purpose as did Mr. Q., when he suggested that the blame might be laid to the *cold north winds*, forgetting that bees carefully housed had suffered from *the bee disease* just about equally with those left on their summer stands." I don't think I forgot any such thing, from the fact that I failed to find one such case to forget. If he knows of any, he can say whose they were, and where to be found. I have as much interest to get the thing correct as he has. I claim that all are *not* "carefully housed," that are brought in-doors. I know of many cases where they were brought in, and yet suffered from the northwest winds, not from its blowing directly upon them, but its continued cooling blast reduced the temperature surrounding them, even inside of some houses, and kept it so steadily, till health, if not vitality, was exhausted, and they came out but little better than those on their summer stands. What are quilts put on for, but to keep them warm?

It is true that I have made experiments in feeding sugar, and am pleased with the result. But I have failed in my experiments to show that it is a preventive of the disease, dysentery. I have fed ninety this fall from five to twenty-five pounds, and have not the least confidence that they will escape the disease any better than those beside them that have their own stores. I shall try and keep them warm, and see, and hope others will do the same.

I have more to say to "Novice," another time.

M. Q.

If you get stung, remove the sting, squeeze out all the poison you can, and apply hartshorn.

[For the American Bee Journal.]

A Sister Beekeeper's Experience.

May 15th, 1872, we received by express two swarms of Italian bees, purchased of A. Grimm. If any of my readers want bees that can sting with a vengeance, and gather honey when the common bees are starving, let them present their compliments, and money to A. Grimm.

The summer of '72, we increased by dividing as follows: We removed a frame of brood with the queen and adhering bees to an empty hive, filling up with empty frames; moved the hive from which we took the queen, placing the new colony in its place. In the fall we had three strong swarms, and one weak one.

My "better half" has no faith in beekeeping. He would say, "You will lose them all this winter." If you wish to have a woman succeed in an undertaking, oppose her; she will be determined to succeed.

Our hives are the two-story Langstroth. We prepared them for out-door wintering, by uncovering holes in honey-board, spreading on coffee-sacking, and packing cap with prairie hay, placing corn-cobs on top. Moved them to the east side of the house, placing them so that their projecting covers touched the house and each other, forming a continuous roof. The intervening space between the hives and house, and between each hive, was packed firmly with hay. We placed empty hives at each end, packing them firmly. All the exposure was in front. On very cold or windy days, boards were placed in front, and removed in fine weather.

On the fourth of January, our bees had a purifying flight, and also in February. The last of February we placed little boxes of unbolted rye flour, also sugar syrup and water under the coffee-sacking in the cap. On mild days they soon were busy dusting themselves in the flour.

We left the bees in their winter quarters until very late in the spring We all know how much better it is for us to retain our flannels until warm weather comes, as the chilly winds of spring are harder to bear than still, cold winter days. We must have, in the coldest weather, fresh air and sunshine, and our bees shall have it, too, if it does take more honey.

When the weather was warm we removed them to the shade of cherry-trees; and as we ladies have the fever of house-cleaning in the spring, we thought the bees might like it, too; so we moved each swarm to a new hive, giving their old home a good scrubbing with brush, hot water and soap, rinsing well with boiling water. Next day returned the bees to their old hive; each bee giving an obliging hum.

We never failed in the coldest weather of visiting our bees and tapping on their hives. They always answered with their hum, "All right." Our bees came forth in spring stronger and more vigorous than when placed in winter quarters.

The past season we increased our bees by artificial swarming, as follows: By taking two frames of brood and adhering bees from three hives, making six frames, and placing them in an empty hive, with two frames of empty comb at each side. Placed a caged queen on the frames for twenty-four hours; before releasing her, sprinkled all thoroughly with sweetened water, to which the essence of sweet anise had been added; using a little fine broom-corn broom to do the sprinkling. We filled the vacant places from which we took the brood with empty comb, bought of an obliging beekeeper. In two weeks we again took brood, as we never disturbed the laying queen.

Our four swarms we increased to sixteen; we were afraid we had not observed the adage "make haste slowly," yet we had a natural swarm on the thirtieth of August, making seventeen. We fed weak swarms during the drouth; am now feeding for winter.

W. M. Kellogg, in the September JOURNAL, tells us that A. Grimm has a bee-feeder "that beats everything, and a handy smoker." Why could you not describe them? You excite my curiosity, which is peculiar to my sex, without the means of gratifying it.

My stings have been many; the best remedy I have found for a sting is, not to be stung. I now have a bee-dress, which is bee-proof. A hat made after Langstroth's directions, and gauntlet gloves, to which I have added about six inches of cloth, extending up the arm; over this I slip an elastic. I prefer small buck-skin gloves to India rubber, having tried both. The smoker that we use is an old-fashioned frying pan, being light and having a long handle.

No lady need be afraid of keeping bees for want of knowledge. We have uniformly found the bee brothers courteous and obliging, never tiring of giving any information desired.

LUCINDA W. HARRISON.

Peoria, Ill., Oct. 10.

[For the American Bee Journal.]

Bees and Hives at the Cincinnati Exposition.

EDITOR AMERICAN BEE JOURNAL: In 1872 I visited our Exposition several times, and was much interested, especially by the show of bees and the different ways of handling them. Mr. Faulkner, of Vevay, had a hive of bees, got up in his peculiar style, in which he uses a large number of boxes, around and on top of the main hive. He claimed to get more honey in his way than in other ways of managing; but I noticed that he had what he called a feeder on, and occasionally replenished it from a reservoir which he had under the shelf. He said he fed them to make them finish the capping of some cells which were left uncapped

when the honey season ended. He could not show his queen, because he did not want to disturb the bees. He thought they should not be handled much.

In 1871, Gray & Winder had a swarm of bees on exhibition, which was open nearly all the time. They did not appear to be afraid of disturbing them, and gave much satisfaction by showing the queen and all the internal arrangements of the hive to visitors.

This year (1873) Mr. Townley had one of his box hives on exhibition, and a good show of honey also. His hive was fixed up in a strange manner. It had glass sides and nothing but *edges* of combs could be seen on all sides. He also had boxes on top, all over holes, through which the bees filled the receptacles with honey, and one tumbler. But the tumbler was an exception. He had a written notice pasted on the inside of the tumbler to this effect: "This tumbler to be left empty." He called these bees Italians, but it seems they understand English, for they left the tumbler empty, although the writing was towards the outside. I suppose they sent one of their number out to read it. He has or had one swarm which one season was remarkably prolific. It furnished enough honey to buy a gold watch, about one hundred dollars of spending money, and some other articles which I do not now remember. He does not favor disturbing his bees, and does not think much of frame hives.

Further along on the same bench was a frame hive exhibited by Mr. Muth. He opened it while I was there, showing us the queen and every part of the hive, and the bees quietly at work. He has different ideas from Mr. Faulkner and Mr. Townley about disturbing bees. He says he opens his hives whenever he wishes, for any reason, and does not find that it has any bad effect. Now, what is the opinion of the mass of beekeepers as to the effect of frequent examination of hives, and what are the *different results* of *frequent* or *infrequent* examinations of swarms?

As to the notice on the tumbler, I recollect something similar relating to cockroaches. When you want to clear them out of a house, write them a formal *notice to quit* in good, plain, round hand, sign it, and have a witness attest it, and then lay it on the floor of your kitchen about bedtime. If you go back in a short time to look at it, you will find it surrounded by cockroaches, carefully reading it, and perhaps *digesting* it, and next morning they will have left. H.

[For the American Bee Journal.]

The Honey Bee.

(Continued from Last Number.)

Observing the effect of the antennæ in agitating bees, Huber contrived a series of beautiful experiments to ascertain their uses. He divided a hive into two portions by the sudden introduction of a grating, through which a bee might hear, see, and smell, but not touch its queen. In the course of an hour, one of these divisions was agitated, and the bees were seen scampering over the combs, neglecting their labors, and crossing their antennæ. In the other they were quiet. It was easy, therefore, to infer in which half the queen had been included. In the division which was destitute of a queen, the workers, after waiting the usual time, began to construct queen cells, for the purpose of replacing the lost queen.

Seeing, then, that it was not by the means of the sense of sight, hearing, smelling, or of any other unknown sense which acted at a distance, that the agitation of bees was excited, Huber so contrived the grating that the openings were just large enough to admit the antennæ, but not the head of the bee, to pass through them. On one side of this grating a queen was placed with a few workers, who immediately paid her the usual homage by forming a circle with their heads turned towards her, offering her honey and other marks of attention. On the other side, were the rest of the swarm. In this experiment, the bees seemed aware that the queen was not lost, there was no neglect of labor, no hurry, but every thing went on in a very orderly manner.

"The means of communicating with this queen," says the same observer, "were very singular. An indefinite number of antennæ thrust through the grating, and turned in all directions, plainly indicated that the bees were occupied in searching for her. She gave decisive proof that she was aware of the interest which was taken in her existence, by always remaining fixed on the grating, and crossing her antennæ with those so evidently employed in ascertaining her presence. Their trunks were, likewise, observed to be introduced to the queen's division; and, while a captive, she was fed by her subjects from within the hive."

To make out the use of the antennæ, Huber amputated them altogether. This experiment produced some remarkable results. The queen, when thus mutilated, ran about the combs, dropped her eggs anywhere but in the cells; could not direct her proboscis right, for if she required honey, she stretched it out at random, and by chance only, to the mouths of the workers. The antennæ of a second queen having been amputated, she was put into the same hive as the first, and acted in the same manner; she, too, ran about in a delirium, retired to the corner of the hive, and strove to get out. Two remarkable things occurred in these experiments:

1. The workers, though they knew they were queens, for they paid them the honors of a sovereign, did not know one queen from another; for a strange queen is always imprisoned when she enters a hive already provided with one. In this case, both were respected.

2. The dreadful antipathy of queens to each other was destroyed by the removal of the antennæ; for the two rivals often met, but never took the least notice of each other.

When Huber put in a third queen, whose antennæ were whole, the bees treated her immediately as a stranger, and instantly imprisoned her.

These experiments throw some light on the mode in which communication takes place between bees. In the first place, it is not improbable that of themselves they distinguish between a queen and a worker, since they pay homage to the queen. We may then conjecture, that, in order to distinguish one queen from another, some communication must be made by the individual queen to her subjects that she is their sovereign, since, where the antennæ were amputated in two queens, both were equally well treated, while a third, which had the antennæ entire, was instantly recognized as a stranger. The mutilation of workers, by amputation of the antennæ produces similar effects; it causes them to neglect their labors, run into corners, and ultimately quit the hive, never to return. Hence, it would seem that the antennæ are the organs of communication.

The senses of smell, taste, feeling, and vision are attributed to bees; Huber doubts that they possess the sense of hearing; their sense of sight is certainly acute in an extraordinary degree. The antennæ are supposed to be the organs of touch. Certain it is, that these organs alone enable the bee to work in the darkness of the hive.

The sense of taste is not very refined, for it matters little to what neighborhood the bee goes to gather honey, or from what flowers.

The sense of smell, no doubt, is also acute. Huber placed honey in boxes with small cord valves, and put them two hundred yards from the apiary. In a short time, some bees had pushed against the valves, and entered. Here, the odor from the honey, was almost shut within the boxes, and their sight could not have assisted them.

Huber thinks that the sense of hearing is very obtuse in bees; however, it can not be denied that sounds are made by the flapping of the wings and other movements of the body, which are distinctly heard and understood by bees.

Instances have been stated in which bees recollected their queen. Another may be adduced, which appears to prove that the faculty of recollection embraced a considerable lapse of time. "In autumn," says Huber, "honey had been placed in a window, where bees resorted to it in multitudes. It was removed, and the shutters closed during the winter; but when opened again, on the return of spring, the bees came back, though no honey remained; undoubtedly, they remembered it; therefore, an interval of several weeks did not obliterate the impression they had received." RENEDIUR.

[For the American Bee Journal.]

Novice.

DEAR BEE JOURNAL: We notice quite a number of typographical errors in our communication in the November number of the JOURNAL, but none of them serious except the remark on page 115, that we have more friends than we have *desired*. Now, the worst part of it is, that one would not at once see how anything so plain could be a misprint, or how our meaning could be other than such a coarse, ungrateful phrase as the above conveys.

If our friends, who have concluded they were disappointed in us, and that they don't care to follow us further, will supply *deserved*, in place of the word *desired*, perhaps they may feel differently. Our "better half" has often remarked that our "bee friends" were nearer to us than our own relatives, and that we exhibited more pleasure in seeing them, and we really believe a letter on Bee-culture would be better read and sooner answered than one from an *own* brother.

Again, we *do hope* ingratitude finds no place among our many sins and short-comings.

On page 113, read *west*, instead of "nest," in quotation from Mr. Tupper.

On page 114, inside column, near the bottom, insert the word *heat*, before "was evolved," and read *freezing*, instead of "freezy," and insert *was*, after "ventilation."

On page 115, read *Hazen*, in several places, instead of "Hayes."

On inside column of same page, at the bottom, read "but won't your extracted honey *sour*, if it be too thin, &c."

On same page, in next column, half way down, read *extractor* for "extra."

From Mr. Marsh's article, on page 120, we should infer he too had a patent hive to sell, but if may be a mistake. We are certainly sorry that it don't "chime with nature" to feed sugar, but we really don't know any better. Milk is the "natural food" for calves, and "nature" has provided a "natural way" for them to get it, but "unnatural man" has, for ages, treated the "infantile bossies" in a cruel and unnatural way,—makes cheese and butter, and even kills the aforesaid innocents, when they are a "bother."

Lest it might be inferred that we *lacked* in veneration, we will give it, as our belief, that t'is man's province, and work to mold nature to his purposes, and that whatever we desire and are willing to work for, with sufficient fervor and energy, will be vouchsafed us, always granting our wishes are wholesome and proper. The *Scientific American* lately made the assertion that the food we ate had more to do with the cause and *cure* of disease, than all the medicines extant, and that by withdrawing the particular food that was doing the injury, many stubborn diseases soon

yielded, and, of late, the statement seems to have met with abundant corroboration. The same honey that seems fatal to the bees, has never, to our knowledge, proved deleterious to the human family, nor have we meant to intimate as much in any of our articles.

Mr. M. himself has given us one case wherein it seems that an *entire* change of food was the only possible remedy. If it be conceded that we can neither by looks nor taste determine whether the honey is unwholesome or not, 'tis clear that the only *safe* way is the one we have "made such a row about." In regard to trouble, we would suggest that *Jasper Hazen* be requested to "figure up" the saving effected by wintering fifty colonies for ten years on sugar instead of honey. NOVICE.

[For the American Bee Journal.]

"On Novice."

The November number of the AMERICAN BEE JOURNAL is at hand, a little later than usual. A careful perusal of its columns makes us feel, Mr. Editor, that we too would like to criticise just a little, and since 'tis getting fashionable to indulge in personals, suppose we lay our hand thereat also, while we are in the writing mood. If the readers of this JOURNAL will examine its issue of February last, they will find an article of ours which Novice, in the March number, said would look better with the above heading. Now, as we wish to talk to the gentleman in question a few moments, we take the opportunity of employing the caption he suggested.

In the first place, it would seem, in consequence of holding his peace so long, that he is unable to restrain himself longer, and so gives vent to his righteous indignation in the last journal, in such a manner as to leave no doubt to the apiarian world, that, of all who are engaged in apistical pursuits, HE *alone* is *capable* of giving expression to the truth, and that only.

As you invite full and free discussion in these columns, we propose to give your readers a view of the "other side." We'll try and be as brief as possible, though we could fill an issue of the AMERICAN BEE JOURNAL, and then the half would remain untold.

On page 113, he says, we "have fallen in with an 'Old Man's Views,'" but gave no "credit." Now, if Novice read all we wrote in the *Bee Keepers' Magazine*, on that subject, he *knows* perfectly well that we entertained the same idea before the June number of this journal was printed. Yet he seeks to again place us in a wrong light, and scruples not at falsifying the truth to accomplish his purpose. He also accuses us of "fabricating long theories." That word "theory" seems to be the most weighty one in Novice's vocabulary. Indeed, if we are to judge by his utterances on these pages, it is the cause of many a sleepless night and horrifying nightmare, and, like an incubus that weighs its victim to the earth, renders miserable and desolate his waking hours.

Theory: Are there any ten writers combined, that have contributed to these pages that ever palmed off one half as much of this "theory," of which he so often speaks, upon an "unsuspecting" community, under the guise of "facts," as he has done?

But how about leading others astray? This is a charge which Novice has so often and persistently made, that we propose to examine it a moment.

Kind reader, will you please turn to page 79, Vol. 6, of the AMERICAN BEE JOURNAL. You will there find one of Novice's visionary effusions, a part of the closing paragraph reading as follows: "In our humble opinion the results we have achieved this year, are no nearer what *may be* done in scientific bee culture, than the old brimstone way is to our present methods." Let us see what those "results" were, as reported by Novice himself. He *claimed* to have secured an average surplus of over 130 pounds of honey per colony, besides increasing them nearly forty per cent. Now, the average "results" of the old "brimstone way" never reached more than one-tenth of that claimed by Novice, as the result of *scientific* bee culture. Our readers will readily see that Novice could soon supply the markets of the world with delicious nectar, *if* he could only fulfill his own predictions. Has he done it? The simple fact, that instead of making such brilliant progress, he has been retrograding ever since, is a sufficient comment upon so reckless an assertion as we have quoted. Verily, he *is* "only a novice"; and is likely to so remain for some time to come. (Novice will, no doubt, charge his ill success to poor seasons, four cent queens, etc.)

Again, he is opposed, bitterly opposed, to patent rights. He hesitates not to endeavor to bring opprobrium upon the man of inventions, and yet *he* scruples not to deal in patent inventions, and *patents them* too. Of course, in endeavoring to depreciate the value of other people's merchandise in the eyes of the public, he does not forget to laud his own wares, which are "indispensable" to the success of the apiarian. A shrewd game, isn't it?

Another "mighty" word in the vocabulary of Novice is "jealousy." If other people can not always agree with his visionary schemes, why they are jealous of his "laurels," or something else. Novice, in his last article, makes another charge of jealousy. Of course it's "none of our business," as he once told another party, but we don't like to see a man harp on a particular string always, so we'll put in a word, also. Reader, please go and get your November number of the *Bee Keepers' Magazine*. There now, turn to page 313, and in the 12th line from the bottom of the first column you will see a blank line. Of course you know that that

blank represents a word. Well, that word in the writer's manuscript was none other than—"Novice." And yet, Mr. King, in his magnanimity, substituted a dash, that Novice might not be exposed. Before leaving this subject, we'll simply "echo" the sentiments of many of the most prominent apiarians of our own state, by saying that they fully concurred in President Bingham's remarks.

Novice's idea of Mr. Bingham's hive is about as accurate as—well, as many of his "fact" ideas, concerning things he knew nothing of. This is by no means the first time he has expressed an opinion upon subjects of which he was "totally ignorant."

Novice ridicules Quinby's idea relative to the cause of loss in wintering, and then turns square about and advises all who practice "out door wintering," to protect hives from those same *north winds*. Can he tell us why? O! isn't it laughable?

Kind reader, did you ever follow Novice in an argument? Then you are conversant with his manner of getting out of tight places. Friend Alley caught him last spring, but Novice said he "called names"; Gen. Adair cornered him, and the charge of "recklessness" followed; Hosmer got him foul, and he cried out "savage." If asked a question that doesn't suit, he is reticent or evasive.

Speaking of the "New Idea" system, Novice says if it gives more honey, "we shall all learn it in due time." Perhaps so. Yet we venture the prediction that *he* will never ascertain the fact, (judging from his articles on these pages,) so long as he can sell "dollar hives." Isn't that the height of disinterestedness?

Mr. Editor, we frankly acknowledge that the task of going over all the (patent) ground which Novice has so faithfully tilled, with the expectation of "results" of an huudred fold, is so arduous that it seems that the limits of a single article would hardly suffice to do it justice. A second thought convinces us that we don't care to extend our castigation farther, unless Novice "gits right down and howls" over this. For, to tell the truth, there is no task so unpleasant for us to perform, as to speak ill of any one, even though he be an uncompromising foe. We do love to commend honest effort, and nothing would please us better than to be able to write the reverse of what this article contains. But there are times when duty demands that the truth shall be spoken boldly and fearlessly.

The time *has been* when the perusal of Novice's articles was a real pleasure. We sincerely wish that we could say the same now. Whatever he may do in future, Novice deserves great credit for persistently endeavoring to bring the American people to a realizing sense of the value of the Mel-extractor in the management of the apiary, as, also, that of sugar syrup as a means of its healthy maintenance during the polar blasts of winter. But since he has got his fingers into the "patent" pie, his judgment has become fearfully warped, and, at times, he is a complete cynic, whose moroseness is gratified by hurling anathemas at all who cross his path.

One word more. If Novice wishes to discuss any of our "theories" with us in these columns, and will agree to confine himself to the topic under discussion, we shall be pleased to gratify such a desire. But if, on the contrary, he chooses to deal in invectives, abuse and epithets, why, Mr. Editor, just tell him for us to "pitch in."

HERBERT A. BURCH.

South Haven, Mich., Nov. 20, 1873.

[For the American Bee Journal.]

Wintering Bees.

A successful wintering of our bees is one of the most essential requirements to justify an expectation of a good honey harvest. Our bees must be strong when the honey harvest begins, or we cannot expect a full crop. We all know this. Now, Mr. Editor, as wintering is of great importance to the beekeeper, allow me, if you please, on this question, a little more space in the columns of the JOURNAL. I was, perhaps, not plain enough in my statement in the October number in regard to my straw-mat arrangement. At least brother Novice, I know did not quite understand me. In the last number of the AMERICAN BEE JOURNAL, he says: "Muth has had no experience with dysentery in his locality, and his bees winter precisely as they did with us before its advent," &c.

My bees had the dysentery, and mouldy combs; not within the last two years, but more or less every other year. I think it was five years ago when I lost just fifty per cent of my bees with dysentery, the same disease which we all have so often seen described, the combs being bedaubed all over with excrements, as was also the whole inside of the hive and the flyboard, and thousands of bees sticking dead in the cells. I don't think this will ever happen to me again, as long as I use the straw-mat in a *proper* manner. Mr. Root says, in a private letter, "The straw-mat has failed where the disease was common." This is exactly my experience. Last winter, a friend in my neighborhood lost eight hives from twelve, and the remaining four hives were poor remnants, indeed. He had his bees covered up with the same kind of straw-mats as I had mine, and with the same kind of woolen blankets below the mat as my own, but he had the second story on the hives with *tight* covers. His hives were much more protected than mine, but his bees died of dysentery, although they had the same winter stores as mine, and his combs were mouldy, for the want of *proper* upward ventilation. Now, then, if I would take a patent,

it would not be on the straw-mat, but on those two one-inch strips above the mat, or on the air passage above the mat.

I have now put in winter quarters thirty-four stands of bees, all told. About ten swarms were made in September, with the aid of ready combs, of course, and I shall, in due time, report as to their wintering this year, under their straw-mat arrangement. My friend, above referred to, has put up his bees in the same manner as last year, only that he left the second story off, and laid one-inch strips on top of the straw-mat. We shall see, now, if his bees will have dysentery again this winter.

CHAS. F. MUTH.

Cincinnati, O., Nov. 19, 1873.

[For the American Bee Journal.]

An Appeal to Beekeepers.

Are you tired of railroad men, friend Beekeepers? I, for one, am very much fatigued with their roughness in regard to my goods. One hundred dollars would not cover the loss that I have experienced by their rough handling. In spite of all kinds of warnings on the addresses, they handle the queens, the hives, and the boxes of comb honey, as if they were recommended not to allow the contents of a single box to pass in their hands without being smashed.

I have had so many queens killed by the smashing of combs, that I prefer to have them starving on their way, rather than to give them combs somewhat heavy with honey,—my risk being smaller.

This spring, I have sent three stocks of bees to a beekeeper of Iowa. All kinds of warnings were written upon the addresses, and, besides, the express officer had promised to see to their careful handling. Well, my three stocks were put in the cars, bottom side up. Fortunately they had only thirty miles to travel, and no change of cars. One half of the bees only were killed, but the queens were safe.

I have tried three times to send honey by railroad. The third time only fifteen miles; and every time, all the combs were smashed down. Yet I had had the care to show a part of the glasses of the boxes. "But," say the railroad men, "we do not warrant living animals; we do not warrant things contained in glasses," yet they take higher charges because they are living animals or glass.

"But it is impossible for us to go with such a speed, and to handle your goods with the care that you require." Why! your speed is not greater than on the old continent. There is, in France, every other year, an exhibition of bee culture. Honey is sent in jars, and in combs from every part of the country; even from Italy, and through every railroad, yet not three per cent of the combs are broken. This year, at the exhibition at Vienna, they had honey in comb, coming from the remotest parts of Europe. These combs had traveled across the railroads of France, Germany, Italy, and Austria, and they arrived in good order.

Yet the railroad rates on the continent are lower than in this country. They are regulated by law. The railroad companies of France and Italy, do not possess the railroad in full property; for these railroads will return to the nations after a lapse of 99 years. Besides, the railroad companies are liable for damages and interests, if they have not cars in sufficient quantities to transport all the goods as soon as presented, &c. Besides, the railroad companies of Europe have not received such bounties as those of this country.

We have not yet arrived to the time when the honey crop will be large enough to encumber the railroad. Our case is the necessity of carefulness,

Some people will think that, as I have been raised in the old country, I am partial to the railroads of the continent. To show that such is not the case, I will cite a well-known citizen of the United States, who, after his return from Europe, wrote in his journal, the *American Agriculturist*, for January, 1868, the following article:

"BAGGAGE SMASHERS."

"To Railroad Managers.—A species of down right robbery is now practiced upon travelers on very many of the public conveyances in this country. We assert as a fact, from our own observation, that many such employed to handle baggage, take a special delight in seeing how hard they can pitch a trunk about. We have *seen* them use extra exertions to give a large trunk a hard thump, and to see how *far* they could *throw* a lighter one,—as if trying to earn the name of a *baggage smasher*. Let any of our railroad managers stand where they will not be seen, and note the handling of the baggage, at a station. They will usually see the trunks thrown out, or in, without the least care to save them,—the corner of one pitched with force into the side of another,—in short, no care is used, to spare them in any way; but every thing done to injure them, that can be done. Probably forty thousand travelers' trunks are daily handled upon our railroads, in the aggregate, and the unnecessary hard usage they receive, amounts to twenty-five cents each, or ten thousand dollars a day! Judging from our own past experience, of setting out upon a journey, in this country, we would willingly give twenty-five cents a day in advance, to have our trunks handled with the same care that is exercised on the European railroads. Here, one hundred days traveling and stopping will thoroughly use up a twenty-five dollar trunk, no matter how strongly made. After a six months tour in Europe, including twelve thousand miles by railroad, with our baggage taken

off and carried to sixty different hotels, and returned to the cars, the trunks came back in a condition suitable for another trip of equal length. A traveling companion, who also brought his trunk in perfect condition to New York, had it jammed, broken, and the contents injured badly, in going barely one hundred and fifty miles from the city. Will not our railroad managers do a great favor to the public, by looking into this matter,—giving a word of caution to the careless or mischievous, and dismissing the incorrigible *baggage smashers?*"

This request of Orange Judd was not heard by the railroad managers. He could have added that the travelers themselves are not as safe, on the American railroads, as on the railroads of Europe. Before coming to this country, I was accustomed to the heavy stone railroad bridges, that will outlive the pyramids. When I saw the wooden railroad bridges of this country, that shake under the weight of the trains, I was astonished to see the government take so little care of the lives of its citizens. In Europe, the governments, before granting the railroads charters, have a plan made beforehand, and the railroad companies are forced to comply with it. Therefore, accidents are very rare, and we, Americans, are held, by European people, as very courageous, to dare travel on American railroads where accidents are so common.

All these complaints have been addressed to the railroad managers, time and again; but they have too much business to do to lose their time in listening to complaints, and mending the bad management of railroads. Are they not in a plot to fill their purses with the money picked from the pockets of the good people of America? Railroads are not made for the benefit of the people, but for the benefit of their stockholders.

The time is at hand when the people will no longer endure such base speculations on their lives, and on their purses. The farmers are organizing granges everywhere. Let us all join the patrons of husbandry, to compel the railroad managers to become the help of the tillers of the soil, instead of a curse, as they have been till now.

To encourage the movement in favor of the granges, I propose to make to grangers a discount of ten per cent upon all the goods ordered by them from my apiary.

CHAS. DADANT.

Hamilton, Ill., Nov. 15, 1873.

[For the American Bee Journal.]

Extracting Honey.

The present spring and summer will show the advantages of the extractor, and of the movable comb hive. During the winter and spring very many colonies that did not entirely fail, became very much reduced in numbers. A queen will lay ten times the number of eggs that such a colony can keep warm. The eggs of a bee must be kept warm, like those of a domestic fowl or they will not hatch. When honey is abundant, as it has been quite early this year, and the weather cool at night, they will bring in honey much faster than the brood will consume it. The surplus is stored as near the brood as possible, and, of course, all cells surrounding the brood on every side are filled with honey, leaving no room for more brood, except as a bee hatches, when the cell is at once used for an egg. A worker bee lives but a few weeks—summer time—and the few hatching in such hive scarcely more than replace those that are dying off. It takes a long time to get a strong colony under such circumstances.

With the extractor, and movable combs, we can help matters greatly. These combs next the brood, filled with honey, can be taken out, bees brushed off, and the honey thrown out, and the combs returned to the hive for refilling. The queen will take the advantage of the empty cells surrounding the brood, and deposit eggs in much larger space than before. The weather being warm, the bees will protect and nurse a much larger brood, which will soon greatly add to the number of bees. If but few pounds of honey are obtained, we have gained that, beside the increase of bees. The honey thus obtained is of the purest kind, pure as the box honey, and the chances of box honey are much increased by the operation.

When the colony is strong early and strong enough to enter the boxes fully, and box honey is the great desideratum, the extracting can be omitted, but the quantity is much less than when the extracting is followed up. The greatest amount of honey can be obtained by extracting as often as once in four or five days during the greatest yields. To test the matter fully, begin early with a strong colony—it increases the bees in a strong colony proportionably. Bees have been known to increase, and not swarm till they filled the combs of four ordinary hives, and collected over eighty pounds of honey in one week, and near 400 during the season. Extracting honey extensively from full colonies, has a tendency to discourage natural swarming more than putting on boxes. If an increase of colonies is desired, artificial swarms must be made. But if the beekeeper has no other than the old box hive, it is hardly worth while to attempt making much improvement in the management. He must be content many times to allow his strongest stocks to cluster outside, when the hive is full, and do nothing for half the summer, when the same bees might, in a good season, gather one or two hundred pounds.

The principle of the extractor is centrifugal force. It is unnecessary to describe fully at this time. We will exhibit to any one calling on us, the full operation. We have already ex-

tracted one thousand pounds from a very few hives, (June 27.)

We find this season, when a strong stock is somewhat limited for room, that nearly every cell, as soon as the young bee hatches from it, is filled with honey. The queen will occasionally find an empty cell before the bees do and deposit an egg. Such will usually keep up the semblance of a strong colony, without a very large number of bees. When so full of honey, but few bees remain inside, in hot weather, and most of them cluster outside for most of the summer, and really are not strong enough to spare a swarm. But when extracting is properly done, they are usually strong enough to spare a swarm artificially, late in the season.

More honey has been yielded up to this time than usual, and those who understand the business, will manage to get some of it.

M. Quinby.

St. Johnsville, N. Y.

[For the American Bee Journal.]

A Simple Cover for Hives.

It is a matter of importance to the beekeeper that his stocks should be protected from the sun during the hot months of summer and autumn. Bees do but little work when their stands are exposed to the full rays of the midsummer suns. Want of attention in this matter is often the direct cause of the abandonment of hives by entire colonies. The failure on the part of the bees to store surplus honey, may also often be traced to the same cause. Bees must be made and kept *comfortable*, to get from them the full amount of service which they are capable of rendering.

The shade of trees and arbors generally furnishes all the protection from the sun that bees require. In such places the air is usually cool and refreshing, even in the hottest weather. But if the shade is too dense, so much so that the rays of the sun are entirely and all the time excluded, there is danger of the combs and the inner parts of the hive becoming mildewed. It is better to have too much than too little sunshine on the hives. But the proper shade can not always be had just where the beekeeper wants to place his hives. He must then resort to artificial protection. The cheapest and most convenient arrangement for this purpose, that I know of, is a cover made of clapboards for each hive. My hive is in shape and size about the same as the Langstroth, and I presume a similar cover would answer for any other hive. I nail five clapboards, each about six inches wide and thirty long; on to two cleats, two of the boards covering the cracks between the three others, in the style of an ordinary board roof. The cleats are placed close enough together to rest on the hive, raising the boards from one to two inches above the top of the hive. An air passage is thus formed between the cover, upon which the rays of the sun fall, and the top of the hive, which has no little effect in reducing the temperature in the upper part of the hive. One of the cleats I make thicker than the other, to give the cover a pitch to run off the rain.

The cost of such a cover would not exceed ten cents, and any one that can drive a nail can make one in five minutes. The whole cover is light and easily handled. When it is desirable to open the hive, it can readily be lifted off entire, and laid on the ground, or set up against the hive, and when the hive is closed it can as easily be replaced.

Such a cover not only defends the bees against the heat of the sun, but also forms a very effectual protection for the hive against the weather. A hive, thus covered, will last and retain its neat appearance about as long as it would under an ordinary shed or roof.

Another important advantage in such a cover is, that the beekeeper can scatter his hives around in his yard or orchard, or wherever he may desire, and have each of them well protected from the sun and rain; this he cannot do under permanent sheds or roofs. When winter comes, and the hives are stored in the cellar or bee-house, these covers can be stored away in the wood-house or barn till they are called for again in the spring.

I have found this simple cover to meet fully my wants in this direction, and I think that beekeepers, who have not already some better device, will be satisfied with it on trial.

Charlestown, Ind. M. C. Hester.

[For the American Bee Journal.]

Wintering Bees.

There has been much said in regard to the great malady of 1871-72-73. With me it is quite easy to explain, from experience. Practical knowledge should be taken to a great extent as proof.

In August, 1871, I found my bees were filling up the combs, and leaving but small space for the queen to deposit her eggs. To counteract this danger, I threw the honey out of 6–10ths of the honey-frames, giving the queen an opportunity to deposit her eggs, for rearing young brood for the winter. The result was, my colonies went into winter quarters with plenty of honey, gathered from flowers, and an abundant young brood, and came out clean, nice, strong, and healthy in the spring of '72, having wintered on their summer stands. To more thoroughly test this plan, in the fall of 1872, I arranged a portion of my colonies on the same plan, and a part I left without any preparation, with plenty of honey and plenty of bees, and the result was that all I had prepared, as on the previous fall, came through all right, while 7–8ths of those left without pre-

paration, perished The great sequel is, it is practically useless to endeavor to successfully winter bees in this northern climate, without a reasonable amount of young bees and brood coming on to take the place of the old bees, as fast as they die off. Now, in regard to Bee Conventions, they are practically worth nothing to the apiculturist, unless knowledge can be had from practical experience. Theoretical views are imaginary humbugs, and not in the least reliable. H. W. Wixom.

Mendota, Ill., Nov. 18, 1873.

[For the American Bee Journal.]

Items.

A bee sting on the lips, Mr. Editor, is no joke. I had one that swelled and pained me considerably, but did not put me in your condition, because my hands have learned to be quick on the spot. About two years ago, a six year old boy was walking through my garden. I warned him to keep away from the bees. "I am not afraid of bees," he replied. "Well, no matter; be careful." In a little while, I heard a scream. I ran to him, and sure enough a bee had stung him on the upper lip. "Well," says I, "I guess a bee has kissed you." I took him to the house and put on some soda and water, and told him to keep quiet and he would be all right in a short time. I was however soon called to the house again, and when I opened the door a sight met my eye I had never seen before. His lips were swelled so that he could hardly speak, and his cheeks were so full as to nearly close his eyes. The swelling extended to the top of his head and down on the cords of his neck in an alarming degree. I got some alcohol and bathed the part well. I also had him swallow some, though not very palatable. I may say here that this is one of the best remedies that I know for a sting. The little fellow suffered intensely and was quite feverish all night. The next day he was just able to be about. The swelling gradually left, and in a few days he was all right again. Now, Mr. Editor, I did not think so much of the *place* of the sting till I read your sad experience; and now I have come to the following conclusion: That a bee-sting on the lips is much more painful, more wide spread, and therefore more dangerous, than on any other part of the exposed body.

My reason is this: The skin upon the lips is very thin, and the vast amount of nerves in that quarter lie very near the surface. Hence, the exquisite pleasure we feel when, saluted by friends, relatives, or family. And now, Mr. Editor, allow me to say that I would much rather be saluted by a curly headed, blue eyed chubby faced little girl than by our *yellow pets*, any day. Wouldn't you?

Our system, it is true, may get accustomed to the virus, but just let a bee come without any warning, with a force and as straight as an arrow from the bow, and sink his sting deep in the flesh, so that you get the full contents of the poison sack, and my word for it, it will hurt on any place.

Wintering bees out doors will soon be a thing of the past, I mean with those who intend to make bee-keeping pay. It is an easy matter to make bees, but it is another thing to keep them. It must be quite perplexing to young beginners to see so many conflicting statements, regarding bee disaster. But one thing is certain, till we can winter our bees as safely as any other stock, bee-keeping can never be considered a success. What we want is a dry, warm, and well ventilated repository, under complete control. Thanks to W. J. Ronald, page 63, for his very interesting as well as instructive article upon this subject.

Hybrid is a word used by pomologists and bee keepers, but not correctly. The product of a black queen mated with an Italian drone is a cross. The mule is a true hybrid. But the term has been adopted, and I suppose it will be hard to give it up.

I confess that I was somewhat staggered at the account given by Mr. Butler, Aug. No., page 27, regarding his bees raising brood on new made combs without pollen in winter. Now if abundance of brood can be raised, as in his case, all winter, and early spring, why have bee keepers been writing and racking their brains so much about the want of pollen, and giving meal and flour in the spring for breeding purposes? Do they feed merely because old bee-keepers did it before them, not knowing the whys and wherefores?

And again, what is the reason that bees do not increase much in the spring till they begin to gather natural pollen? As one swallow don't make a summer, neither do I think Mr. Butler's experience of twenty years ago will establish the fact that brood can be raised without pollen. Who is interested enough on this subject to experiment this winter and report next spring?

Dollar hives are nothing new, though I give Novice the credit of being a "disturber in Israel" upon this subject. I have been using the Simplicity for the last five years, such as are made by M. M. Baldridge, St. Charles, Ill. It is nothing but a simple box hive with frames hung inside, with a top story when needed. And of all the hives that are made, I have found nothing better for my use.

Bee eggs can be safely transported from one state to another. J. Marvin, St. Charles, Ill., was the first I heard of sending them with perfect success.

Novice has a happy way of telling all he knows, but he did not tell us whether that baby of his is a drone or a queen.

Argus.

[For the American Bee Journal.]

Bee Keepers and Bee Masters.

Our dear old friend, William Augustus Munn, is no more. He died rather suddenly on Sunday, October 12, in the sixty-third year of his age, as he was born on the 28th day of October, 1810. He had a good, kind heart, and, up to the last, was active with his hobby,—"the bees." His last article, page 103, *The British Bee Journal*, appeared in print nearly three weeks after his death, and the conclusion of that article is expressed in language of advice to all of us, as if it came from the grave.—"Let us all, then, try and extract all the good we can from the various hives suggested, and, guided by the impartial review of our bee master editor, let us remember that bee stings are all cured by a little blue bag, if we should take to it, and that our lives are not forfeited by any stings we may give, as our pens are not barbed with poison."

His loss will be felt by all lovers of bees, and there is a large debt of gratitude due to him for having so long worked to improve bee culture, and having assisted so very much in bringing apiculture to the perfection it now has arrived at. Major Munn must have commenced early in taking an interest in those wonderful creatures, the bees, as he would be only 24 years old, when he first invented his bar-frame hive, in 1834.

Huber was the inventor of bar-frames, but his frames were an inch thick, and, when put together, formed the ends and tops of the hive; but the Major was the first to put bar-frames in a box or case, the same as the modern bar-frame hives; after testing and improving his hive, for nine years, he took out a patent in Paris for it, in 1843.

Rev. L. L. Langstroth, in America, and the Pastor Dzierzon, in Germany, (two of the cleverest bee masters in the world,—may they long live to enjoy their honors!) invented their improved bar-frame hives, at the same time, quite unknown to one another, about the year 1852, and, on October 5, of that year, Langstroth obtained his first patent for his hive, and, with these improvements, bee keeping has become of national importance in many countries in the world.

It was not with hives only, that Major Munn devoted his time and talents to improve bee culture, as is seen in his various and multitudinous writings. He published a pamphlet on bees in 1844, and another edition in 1851, and in that year exhibited his hives, etc., at the great International Exhibition in London. In 1870, to crown his long labors, he reprinted his friend Dr. Edward Bevan's work, on "The Honey Bee," which is the most scientific work on bees ever written in England. Major Munn has also written a great many articles for the journals and magazines in this country and in America.

We can now only deplore the loss of our dear friend, with the matured vigor of his pen and intellect, and it is a wise providence that does not let us know whose turn it may be next; but it is a warning to us all, not to waste those talents that have been intrusted to us, but to freely distribute them for the good of our fellow creatures.

William Carr.

Newton Heath, Near Manchester, Eng.

[For the American Bee Journal.]

An Error Corrected.

On page 100, of the Nov. number of the American Bee Journal, Mr. C. P. Dadant says: "Out of sixty hives containing both side and top boxes, separated from the brood chamber by any partition, not one colony was found that worked in the side boxes half as well as in the top boxes."

As this assertion (and the truth of it I forthwith acknowledge) is of a nature to mislead some beginner, I will here give a short sketch of a series of carefully conducted experiments made through four successive years, with hives, having side, top, and end boxes, for surplus honey.

As our honey pasture is somewhat different from others farther east, I will here state that, in early spring, we receive a little honey from the blossoms of wild plum, and a good harvest, quite late in the fall, from golden rod.

In conducting our experiments, we used, as many of our numerous visitors will remember, a style of Champion hive, having boxes on top, on the side, and on the ends of the brood frames; when all these boxes were on or around the brood, the bees would prefer to build comb, and store in the top boxes, in preference to side boxes; next, they would occupy the boxes on the ends of the brood combs, and, last of all the side boxes; all of which is according to a fixed law of nature, warm air being lightest, would *rise* to the top boxes, and, as there the bees found the humid air to keep the wax pliant, whilst comb building, they, of course, occupied these boxes, in preference.

But, thanks to a lucky accident, being without top boxes for a number of hives, we set the second story of these hives aside, put the roof direct on the lower story, and, lo! the bees would occupy the boxes, on the end of the brood combs, just as readily as their neighbors would the top boxes. Now, how was this? Well, here, *the warm air could not escape into top boxes*, and remained below, spreading horizontally from the brood cluster of bees.

We yet experienced a difficulty of getting bees to work in *side* boxes, and now, after laying for hours in the grass by the side of various observing hives, we have come to the following conclusion: That boxes placed on the *side* of brood combs are reluctantly occupied

by bees, because each sheet of comb forms a wall and obstruction to both bees and warm air; the narrow passages around the combs seem insufficient; whereas, boxes placed on the *end* of the brood combs only, with no partition between them, and *no upward* escape of warm air, are as readily occupied by the bees as top boxes ever are, even in early spring or late in fall. On the contrary, we have obtained more box honey from hives having an end box, than from hives having top boxes only at the same time; and since we found such to be the fact, all theories to the contrary notwithstanding, it is more pleasure to open a hive and handle the combs in pivot frames, never glued, no honey boxes to lift away, or crushing of bees. Well, here I am getting too enthusiastic, and unless I stop, ere long, some one will say I am advertising in the wrong place; but, be easy, we propose to do our advertising in the advertising columns,—see it. E. KRETCHMER.

Coburg, Montgomery Co., Iowa.

[For the American Bee Journal.]

Bee Notes from Morrison, Ills.

MR. EDITOR: It is a long while since we reported, and having passed through another bee season, we resume the notes. We cannot report an extra season passed, but fair to medium, first of the season cold and wet, with no linden blossoming. Sumac yielded but little or no honey. White clover was good at times, and our pets have done well considering all things. Our stocks last winter went from 13 to 3. This spring I purchased 3 black stocks, and from the 6 from May 1, I now have 18, besides having sold $30 worth of bees, and having extracted over 775lbs. of honey. Reckoning the honey at 15c. (I get 18c. and 20c.), and bees at $10 a stock (I would not sell them for less,) it makes $326.25 from six stocks of bees, during the season, or over $54 a stock, and they have boarded themselves besides. I now am fitting them for winter, rather late, I fear, but other matters have demanded my attention.

By the way, why do you allow so many hard things in the A. B. J. about "Novice"? He has done very much for the beekeepers, and should be helped, rather than slurred. I don't like all of his ideas, nor does he mine; but that is no reason why we should rush into print, and abuse each other, like the "monthly criticisms," abusings, or ridiculings, I call them, of A. and D., C. and B., and so on. I don't believe it is relished by a majority of your patrons, and I would vote for a less amount of it.

Speaking of "Novice," I have a better, because cheaper, bee-feeder, than his tea kettle—not patented; a saw, hammer, and nails, are the tools necessary to make it. I'll tell you how it is done. It's a tight box, any size you wish to make, with a wooden bottom or top when in use, and a piece of fine muslin drawn tight over the other side, and fastened; the inside of the box, cracks, and corners are painted with wax and rosin, before the cloth is put on. Small strips of wood are nailed on the edge of the box, to raise it up from the frames, and a hole is bored in the side to fill it, a cork being used to stop the hole when filled, a small piece of glass is placed in the wood, to use when the feed is out, and you have feeder that won't cost a dollar, and will hold from one to twenty pounds, according to size. To use it, fill it, stop it up, and invert it, cloth down, over something till it stops dripping. Wait a minute or two, and then place it on the frames, and with the cloth honey board cover up the balance of the frames. I made three one evening, and I *know* they work splendidly.

The idea is new (to me), but the principle, forming a vacuum, is old. I consider it a great improvement in feeding, over the tea-kettle, although that is good; but mine won't cost scarcely anything.

Mr. Kruschke wants to know about the rape seed. I sowed one acre: not any more for me. My neighbors laugh at my turnip patch, for bees; it's nice and green now (Oct. 15), but I don't think there was a hundred blossoms at one time on the piece. I kept close watch of it, for I was much interested in it; but whenever I went to it I found more or less bees hovering around the few flowers that were there. I expect it was too dry for it to come up good, and it did not grow well. I would not condemn it, but prefer to use something else for bee pasturage, for the present.

Success to the A. B. J., but please don't allow so much bickering in it.

FRANK W. CHAPMAN.

Morrison, Ill., Oct. 29, 1873.

[For the American Bee Journal.]

Not Mistaken.

MR. EDITOR: In the August number of the A. B. J., we gave the result of an experiment with a swarm of bees, which proved to us that bees can build combs and rear brood when fed upon honey and water alone, and confined to the hive.

On page 112, November number, Mr. Chas. Dadant attempts to prove that we are mistaken, and says that brood cannot be raised without pollen.

Now, Mr. Editor, we do not propose to have any controversy with Mr. Dadant on this subject. But if Mr. Dadant contends that his experiment in returning those swarms and giving them a frame containing pollen, is the proof, we, for one, can't see it.

Now, brother beekeepers, let us see. In September No. A. B. J., page 53, Baron von

Berelepsch says that the bees will, for from six teen to eighteen days continue building and bearing brood, when fed upon honey alone, although, owing to the long confinement, many dead bees, with swollen abdomens, lie on the floor beneath.

Now, please to read our article in the August No. A. B. J., page 27, and see if the condition of my swarm, in about 14 or 16 days, was not in precisely the condition as described by the Baron von Berelepsch. I have done with the subject. J. Butler.

Jackson, Mich., Nov. 20, 1873.

[Translated from the Bienenzeitung.]

Concerning Strengthening Swarms with Combs of Brood.

One of the greatest advantages derived from the movable comb system, is that you can readily introduce combs of brood into weak stocks, whether natural or artificial swarms, and can in the most advantageous way help the queens.

While the addition of strange bees will be rejected, in spite of smoking,—the strange bees being stung to death,—the introduced brood-comb will be received with pleasure, and when the bees are in a situation to do so, will be carefully protected.

Foolish, indeed, would it be, during the cool period of the year, to introduce to a weak swarm more combs of brood than they would be able to protect; nevertheless, in the warm summer time, and when most of the brood is sealed, it can be done without the least danger. Without any further trouble, the brood will issue from the cells; and, even though a portion should die, the attained advantages are great, and outweigh the disadvantages. About the middle of April, I introduced into a medium strong stock, having an exceedingly beautiful Italian queen, a comb of brood from a bastard stock, the brood reaching almost down to the bottom of the comb. Now came a cold spell, the like of which we had not had during the whole winter, the thermometer, on the 26th of April, standing 6°, and nearly as low the following day. The bees must have drawn themselves together, and, upon examination, I found nearly the third of the lower portion of the comb deserted and cooled. Leaving this misfortune aside, I do not repent concerning the operation; since the hatched out bees, to the number of 4,000, had in this stock far more value than 6,000 in the overstrong colony, from which the brood-comb had been removed.

All ordinary cooling and injury can be warded off thus: the brood-chamber should be narrowed and protected as much as possible; the entrance, if the night be very cold, should be closed entirely, and, in the interior of the hive, there should not be wanting a uniform temperature; hence the bees should not be allowed to suffer for want of honey. Candied honey, over which the bees must work some time, if introduced where the creation of heat is most necessary, especially recommends itself.

Far better will a weak stock be aided, if, when brood is given them, they also receive bees. Should a comb of brood be given the hive, with the bees upon it, the young ones will remain, but the old ones will, sooner or later, return to their old home, and then be killed. For such manner of strengthening, one must take advantage of a pleasant day, and, by means of diluted honey, divert the attention of the hive, so that all the strange bees that desire it can slip away unobserved. But it is more advantageous to take the bees from a distant stand, or to remove the strengthened stock to a distant stand. In order to protect the queen from the strange bees, it is best to cage her for a few days.

Strengthening by brood-combs, is to be especially recommended for weak colonies, which, by such means, soon arrive at the proper strength. Hence, the folly of sending from a distance, strong colonies of Italian bees, which, in warm weather, are liable to be suffocated, when we are in the possession of so easy and ready means of quickly strengthening them. Dzierzon.

Carlsmarkt, May 13, 1873.

[For the American Bee Journal.

100 Pounds Box Honey in 45 Minutes.

NOT GATHERED BY THE BEES IN THAT TIME, (THAT WOULD BEAT EVEN GALLUP,) BUT REMOVED FROM THE BEES IN THAT TIME.

In accordance with previous arrangement with Novice, (noticed in the American Bee Journal heretofore,) I proceeded on the — of August to remove 100 pounds of box honey. I happened to hit an unfavorable day. It was cool, and few bees were at work, I should have attended to this matter in July, but it was somehow put off. I went to work without an assistant, or previous preparation of any kind, the same as if I wanted honey to sell that day. (I have often removed 100 pounds of honey, driven ten miles and retailed every pound of it and returned the same day, with the spondulicks in my pocket.)

THE OPERATION.

The top or honey board was removed first, and the bees driven down with smoke. With plenty of smoke I can drive nine-tenths of all the bees out of the surplus box in a few minutes. The boxes were then (three in number) set on a board, and an empty box set on each to catch the few remaining bees. A gentle rap on the board soon drove the bees all out, after which

the boxes were carried to the honey room. This was all done within forty-five minutes. We had no occasion to pack the honey for market: we can sell all we can raise in our neighboring large towns.

What is singular in this operation, is that the three boxes weighed just 100 pounds collectively.

The question may be asked, can box honey always be thus quickly removed?

We answer, yes, and in less time. Why we haven't half tried. I am satisfied that I have often with smoke alone removed every bee (from a thirty or forty pound box) in ten or fifteen minutes. Just imagine a box large enough to cover the whole of your hive, and only about six inches deep without top or bottom so that you can see right through between every range of comb; what will prevent you from getting out every bee almost as quick as you can say Jack Robinson?

Mr. Editor, I just feel right here like throwing out another challenge thus:—That I can make more clear cash from fifty hives of bees, (the honey resources being equal) with box honey than any one can make with the same amount of bees with the extractor, and with your permission, Mr Editor, I will write several articles under the heading

BOX HONEY VS. EXTRACTED,

for I do think Novice sends box honey too far below zero, and is a little prejudiced against box honey.

What I have done and written I have not done to beat Novice, of course not, but with pure motives, for the good of all. There is no patent right lurking anywhere.

R. B. OLDT.

New Berlin, Pa., Sep. 1, 1873.

[For the American Bee Journal.]

To Clean Old Combs.

MR. EDITOR: We often have our old clothes cleaned, from the fact that we so seldom get any new ones. So we have been trying it on honey combs and are so well pleased with it, that we give it for whatever it may be worth.

Operation: If the combs have any honey in them, extract it, then lay them flat in a tub, barrel, box, or anything that will hold water; fill the tub with combs, lay on a board, and a stone, to keep them from floating. Now fill the tub with water, and two quarts of slaked lime. Let them soak 24 hours, and then take out one at a time, laying them down flat on a board, and with a fine broom brush lightly, but thoroughly, and well each side of the comb. Next put them into the extractor, and throw out the water. Dip two or three times into clean water, to rinse them; throw out with extractor each time; next stand them up singly in the shade to dry; two or three days will not be too long to dry them; next cut out all drone comb, or other bad spots, and patch them up neatly with worker comb, and they are ready for the bees; and you will be more than pleased with the result. If there are any worms in the combs, the water kills them. All the combs we have in use, have all nearly been through this process. Even old and very black ones, look more like combs a year old.

J. BUTLER.

Jackson, Mich., August 8, 1873.

[Translated from the Bienenzeitung.]

An Imprisoned Queen.

Last spring I called the school boys into my apiary, to show them how two stocks may be united, and when they have movable combs, how they can be readily examined. When opening a medium strong stock, I discovered, in the rear, a cluster of angry bees; naturally I desired what that procedure meant, and at once freed the imprisoned queen. She was already somewhat lamed, but was soon able to manage oerself, and visited with pleasure her comrades that were resting on my hand, and after a while was accepted by the bees in quite a friendly manner. This stock had not been opened, and yet the bees had disowned their queen, and had condemned her to death. This accident shows that queens are in danger, even though the hive remains unopened; and may be murdered when she is thoughtless enough to go out of the brood-chamber, where the bees have lost their scent, and thus are more ready to take her for a stranger.

A. SEMLITSCH.

[For the American Bee Journal.]

Information Wanted.

ED. AMERICAN BEE JOURNAL:—Can any of your numerous readers inform me of a good locality for an apiary not too far from Chicago, and having basswood and white clover.

I desire to start an apiary and will consider it a great favor to receive the information desired.

R. J. COLBURN.

Englewood, Ill.

THE first number of *Vick's Floral Guide*, for 1874, James Vick, Rochester, New York, is at hand with the usual fine flower-plates and complete catalogue of seeds, &c. The work, issued quarterly, is cheap at twenty-five cents a year.

Reports, Experiences, and Opinions.

W. C. Wells, Thurlow, Ont., in renewing his subscription, says:

My bees have done well this season. I had 70 stands last spring; have sold $515 worth of honey, and increased 22 stands.

H. W. Wixom, Mendota, Ill., writes Nov. 18, 1873:

This has been a poor season for honey gathering, on account of exceeding drouth, yet bees have, as a general thing, gathered sufficient honey for winter purposes.

J. N. Walters, Winchester, Iowa, writes Nov. 15, 1873:

The bee season here has been tolerably fair. Last winter I lost 98 colonies out of 102, the remaining four of which I have increased to 30 strong stocks during the past season.

H. Hudson, Fennville, Mich., writes Oct. 30, 1873:

Bees have done well in this vicinity—what few there were left. I had 40 stocks last fall, and lost all but three during the winter, which I have increased to nine, and have realized from them 300lbs. box honey, and about 100lbs extracted.

C. L. Young, Bricksville, Ohio, writes Nov. 20, 1873:

I have kept bees 44 years, and have one hive 34 years old. The first ten years I was not very successful, but have been moderately so since then with the box hive, with cap on top as an accessory. I have now commenced with the frame hive and the Italian bee. The last season was so poor that I have not made much headway.

David Brokaw, Oconomowoc, Waukesha Co., Wis., writes Nov. 4, 1873:

Last winter I lost one quarter of all the bees I had. After setting the remainder out on April 7th, I lost by desertion and cold weather so many of these that I had left but one quarter of what I originally possessed. I increased these to four good stocks, and have obtained 200lbs. of surplus honey in boxes, and a good prospect of wintering well, the bees having a sufficiency of good sealed honey.

Seth Hoagland, Mercer, Pa., writes Nov. 10, 1873:

We started last spring with five colonies, which we increased to twenty, and received 600lbs. surplus honey.

By 15 swarms, $15 each, - - -	$225 00
" 600lbs. comb honey @ 30c. - -	180 00
Total, - - - - - -	$405 00

We realized $81 per colony. My bees are Italians, kept in the Keystone and Langstroth movable comb hives. Our swarms were made artificially, and are all in good order for winter. White clover and silverhulled buckwheat were the principal sources from which the honey was gathered.

J. F. Brown, Winchester, Va., writes Nov. 17, 1873:

The past season has been rather more than an average one for the bee business. I had, when the spring opened, 20 colonies of hybrids, all in good condition, except four, one being in an old gum, which I transferred to a Langstroth in May. I increased my twenty colonies to twenty-seven by dividing. I have taken off and sold 1,177lbs. net of comb, and 335lbs. extracted honey, and have reserved for next spring's feeding 100lbs. extracted. I do not expect to need this for that purpose, but will keep it, in case of an emergency. The 435lbs. extracted honey, and 44 nice straight combs, were taken from four hives; the combs are now all empty, waiting for next season. Of course, this doesn't compare with the success of many of our honey raisers, but I think it is doing pretty well for me, considering that all the attention my bees got during the season was about a half-hour that I would take from business three times a day at each meal. My 27 stands are now in good order for wintering.

Leonidas Carson, Frederick, Mahoning Co., Ohio, writes Nov. 1, 1873:

The winters of '71 and '72 were a death-blow to many beekeepers, Italians faring no better than black bees. The past season was very poor for the apiary in this location, Italians doing much better than black bees. I have one colony of Italians that I have taken forty pounds nice box honey from, also made one artificial colony from which I have taken twelve pounds comb honey. Both colonies all in good, strong, healthy condition. I doubled my colonies this season, all in very good condition; while the black bees in this part of the country cast but few swarms that cannot winter, some of which are now dead. A season like the past must convince beekeepers of the superiority of the Italian bee, but some of the old fogies are so bigoted that they will not see it. One man even went so far as to say that the Italian bee was the cause of the black bee running out, but the trouble is, our beekeepers are not posted in regard to beekeeping, the old let-alone plan not answering any more. A great many beekeepers have yet to learn that bees must be cared for like any other stock, to pay; and the only way for that class to do, is to read up, by taking some good bee journal.

As early as 1765, a premium of £200 was offered in England to beekeepers who would obtain from their own stocks, 10lbs. of clear wax, and at the same time preserve the bees, and leave enough stores to winter them.

THE AMERICAN BEE JOURNAL.

Chicago, December, 1873.

Interesting and Important "Announcement."

Good news for beekeepers everywhere! Wonderful power of conscience! Grand triumph of "grace and strength"! Remarkable case of repentance! Mr. King's invaluable hive-patents henceforth free to all and sundry, for ever and ever. AMEN!

It is no ordinary piece of intelligence we have to impart this month to the readers of the AMERICAN BEE JOURNAL. Our fingers are tremulous with excitement as we pen the astounding and thrice-welcome announcement, that Mr. H. A. King has voluntarily,—with the most unheard-of magnanimity,—surrendered his patent claims, and given the "universal world" permission to use his peerless discoveries and immortal inventions in apiculture, "free, gratis, for nothing"!

Profound sensations and involuntary exclamations of astonishment and delight will greet this announcement from Manitoba to Georgia, and from Maine to Oregon,—in short, wherever on this great continent of North America, bees are kept, or the English language spoken, "Waal neow"! "I want to kneow"! "Du tell"! "That beats the Dutch"! "That bangs Banagher"!

This momentously important step has been taken after a protracted and painful inward struggle, which has at length ended in a glorious triumph of principle over interest, of conscience over evil inclination, and of grace over self. So we are informed in an article headed "Announcement", which appeared simultaneously in the *Bee-Keeper's Journal*, and the *Bee-Keeper's Magazine* for November. It is indeed an affecting piece of autobiography, and will be worth a great deal when Mr. King's memoir comes to be written, (?) as furnishing a truthful index to his character.

"Nearly three years ago," our distinguished friend and benefactor was "almost persuaded" that it was his "duty to cease selling patents." But he was restrained from ceasing to do evil in this respect, by "the advice and arguments of friends." Alas! what a snare bad company is to those who want to be good. "Last spring," he goes on to say, "our conscience aroused us to action again in the same direction again, but we were again checked," by what influence is not stated,—probably by hardness of heart resulting from the wicked attempt to gull the beekeeping public about the destruction by fire of the DesMoines apiary.

Now comes the most interesting part of this narrative. "We have, thanks to a higher power, been aroused again, and although we found our action bound more strongly than ever by partnership and other undivided interests, GRACE AND STRENGTH HAVE BEEN GIVEN US to fully carry out our resolution to break every band, and announce our hive *as* public property in all unsold territory, which is yet about ninety-nine one-hundredths of the whole United States."

"Hooray!" "Glory, hallelujah!" "Well done, brother!" "Bully for you!" "Bress de lor'!"

> "Now here's my heart and here's my hand."
>
> "We'll stand the storm it won't be long,
> We'll anchor by and bye!"

There is joy in heaven over one repentant sinner,—let there also be joy on earth.

But our penitent anticipates trials and difficulties in his new career of goodness. He says, "Some may be disposed to criticise our course, but we hope they will do so kindly, for we never took up a heavier cross in all our life." We believe it, brother. It's a mortal heavy cross, no doubt. And you "wouldn't a' took it up" if you "could a' helped it," would you? But a higher power interfered, and you had to. You say, "thanks to a higher power." So do we. So does "all the world and the rest of mankind," in view of the great boon bestowed on them by the "resolution to break every band, and announce our hive as public property."

There may be some difference of opinion, however, as to the nature of the "higher power" which has achieved such glorious results. We are a little puzzled ourselves on that point. But we beg to assure Mr. King that the "power" he was writing of when he penned that article is not the "power" we are thinking of at this moment.

And if Mr. King supposes a discerning public will give him credit for the pure and high religious motives and Holy Divine influences,

under which he professes to have acted, he is mightily mistaken. No; mankind may as Barnum affirms, like to be humbugged, but the imposition must be decently and cleverly done. There must be some degree of artistic disguise about it. Mr. King's "announcement" lacks this. "It's too thin." As a stroke of piety, it is not a success. It's too Pecksniffian. An air of pious cant pervades the whole thing. It's a burlesque and caricature, not a genuine religious experience. If it were a true thing there would be some talk of restitution, or, at least, some expression of regret for having swindled the public so long. A true penitent is ready to surrender his ill-gotten gains. Mr. King isn't. Not a word of amends, reparation, or even sorrow, can be found in the entire article.

Every beekeeper, possessed of the least penetration, will see in the "higher power," to which this "new departure" is ascribed, either stern necessity or selfish policy. Does Mr. King really suppose he can make people believe such statements as the following:—"We have lost much more in this business than we ever made out of it, but we should seek to regain from the same source what we have lost, did we not believe it wrong for us to continue the sale of patents." Why, any shrewd boy would pronounce this, "fooling." It would have been far better to have left conscience, religion, duty, higher power, "grace and strength," out of the case altogether, for it only exposes sacred things to ridicule to bring them in. A simple business notice would have been the manly, straightforward thing. This canting, snivelling way of dealing brings religion into contempt, and makes too many seriously doubt whether there is any reality at all in it.

We say nothing here as to the principle of hive patents or the worthlessness of the particular ones now generously given to the public. We may touch these and other connected topics at some future time. If we don't, it is pretty certain that others will.

Chromo Premiums.

We find the following remarks in the *American Rural Home:*

"The picture dodge is getting stale. Five years ago, chromos were something of a novelty, and a really good one did cost from five to twenty dollars. Now chromos are more common than the cheapest lithographs used to be, and very fair ones can be bought at low prices, while the *cheap* ones—such as are regularly used by newspaper publishers—cost little, and are too often worthless. * * * We have had numerous offers to supply us with the regulation newspaper chromos for this fall's campaign, at from ten to thirty cents each (the same to be priced by us at from five to ten dollars each), all of which we have respectfully declined."

Newspaper Decisions.

1. Any person who takes a paper regularly from the post-office—whether directed to his name or another's, or whether he has subscribed or not—is responsible for the payment.

2. If any person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it, until payment is made, and collect the whole amount—whether the paper is taken from the office or not.

3. The courts have decided that refusing to take newspapers and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

[For the American Bee Journal.]

Cheap Hives.

Dear Journal: We notice in the November Journal that Novice accuses us of advertising our fifty-cent hive in its pages—did you ever!—just as though any one would write to the unknown scientific for a hive.

We would inform Mr. Novice that not a line has reached us furthermore we have no neat circulars to bait the hook with when the line is droped. We will however describe the hive and let your readers judge who has advertised it the most on the pages of the Journal.

Well then, if you want a hive for fifty cents, make a simplicity hive of rough hemlock boards, the hive with top and bottom won't cost over thirty cents, if hemlock lumber is as cheap as it is with us. Now instead of spending your money for tin corner frames, at six cents each, make your frames as follows, and they will cost less than two cents each, and we will guarantee you can handle them easier than Novice can his, and you will secure straight

comb every time, which is not secured in Novice's great long gerrymandering frames.

Our frames are fourteen inches long, ten and one half deep, outside measure. The top bar is three quarter inch square, thirteen and one quarter inches in length; the end pieces are ten and one half long, three eighths thick, one inch wide, these are nailed to the ends of the top bar with No. 6 finishing nails, the top bar having one edge down. If used as a single-story hive no bottom bar is needed. Now to hang these frames upon the metal rabbits, make staples out of four-inch pieces of strong wire, with the aid of a brad, and, to start them, drive them down into the upper end of the end pieces until they project only three quarters of an inch, then bend the projections out at right angles to the frame, and they will operate the same and suit us as well as tin corners.

Now put on your quilt and pray tell us who has advertised this time in the pages of the Journal, at the rate of many columns at a stretch, and that to with "nary a frame."

The whole cost of material in such a hive if made of cheap lumber will not exceed fifty cents, but of course it is better to make them of good quality of lumber and painted, and we think they need not cost more than a dollar all complete. We have been using a close fitting frame hive the past season, during warm weather, while the bee glue is soft, the frames can be easily handled, but as cold weather approaches, force must be resorted to, to separate them,—they are not adapted to rapid handling.

Extracted honey is growing in reputation in this vicinity. My few hundred pounds were disposed of at our very doors for twenty cents per pound. SCIENTIFIC.

Hartford, N. Y., Nov. 26, 1873.

[For the American Bee Journal.]

The Blowing Disease.

Dr. S. J. Barker, in the Country Gentleman, says—

"This is not strictly a disease; yet it causes diseases that are largely fatal. It is a summer cause of death, and as such needs the careful attention of professional and other entomologists. It is best seen at the close of a hot day in July, when hundreds and thousands of bees are seen so feeble and diseased on the ground about the hives that they cannot rise and regain their homes. Others are so diseased that if you take them up and put them back in the hive, they will not stay, but leave, wander restlessly for a while, grow quiet, and perish with more or less rapidity.

"The appearances are—1. Worn and ragged wings. This is of course simply the mechanical laceration of hours of incessant ventilation of the hive by blowing with their wings. 2. The minute hairs or down on their bodies is worn off. This is also a mechanical effect of their exhaustive labor in ventilation by fanning with their wings. 3. Their bodies are either partially or wholly blackened. That this is not the blackish or brown color shown by denudation of the hairy epidermis is proved by artificially scraping it off a healthy bee. 4. The body of such a dying bee is long and tapering, and the end of it next the sting is of clear or light color. 5. When a bee dies in a minute or two after coming out of the hive, cutting it open longitudinally will show that the minute circulatory tubes are full of white matter, not the clear or the yellowish fluids of health. 6. The bee is restless, makes attempts to fly, wanders about for a while, and at last settles down, often in a path or smooth spot, grows stupid and dies. 7. It is changed from the fine proportions, color and intelligent movements of health, in its action as well as in its whole form.

"Now I do not say that any system of bee-keeping can so ventilate hives that bees shall not do what is their nature to do—namely ventilate the whole hive by a system of blowing the air by their wings. They do this from joy, as when they go blowing and humming into a new hive, when one has been supplied them in swarming. They always delight in placing the brood cells close together for air artificially by their wings over the porous caps of these cells, the brood would soon be dead and a mass of putrid corruption. So ventilation is absolutely necessary with their wings, no invention can ever take its place. But in such years as the last few, when life is so tenderly held by the bee, and hence bees die so easily, it is a sad matter for a kind hearted bee-keeper to see so many of his pets die by every hard hot day's work of blowing for ventilation; and if plans that are feasible or practicable can be had to lessen the loss by this cause, it is well worthy the attention of every bee-keeper. If the loss, in an apiary of forty hives, is three quarts of bees every such day, it is a damage of no small moment. What I am speaking of is not the gentle cheerful hum of April, May and early June or of corresponding fall months; for one then rarely sees bees either about the hives injured in this manner, or dying or dead of this excessive labor. Neither do I say that all bees injured in their wings die at once or for days; for many strong enough to collect honey or pollen are in all warm months seen at work. It is of the great loss of occasional days, and of all the hot periods of summer, that I speak.

"When one handles, no matter how gently, combs in these hot periods, he is surprised to see how frail is the heated wax. Few can handle and not crush the delicate combs of a new swarm. Hence I believe we ought to shade our hives more, and yet have them in sheltered positions.

"But the object of the article is accomplished. It was to name and describe another of the causes of death to bees, as I have named "winter sweat" and bee moth. The reader will be so good as to observe his own bees, and draw his own conclusion. My object is to cultivate the disposition to examine into all causes of ill health in bees."

[For the American Bee Journal.]

Bee Pasturage.

Unless there is an abundance of honey-producing plants, it is impossible for the best arranged apiary to bring its owner any profit. Bee forage is found, more or less, in all parts of our country; but while this is true, there is no doubt but that some neighborhoods are much better adapted to bee culture than others. In our Southern country most of the honey comes from the resources of our forests, swamps and hedges. And for years to come we will have to look to the pasturage growing in these localities for our yield.

Among the uncultivated trees, shrubs and plants whose blooms seem to be particularly rich in honey, I will name the poplar, black-gum. bay-tree, persimmon, sour wood, holly, sparkle-berry, button bush, sumac, golden rod, catnip, asters, and many others that yield no doubt more or less honey. The alder blooms in February and yields pollen but no honey. Most of the above bloom. durrng the last of April, May and June in our latitude. The button-bush, which grows in low places along water courses, flowers in July, and yields some honey. It usually remains in bloom for about one week. Sumac comes in August, and lasts for several weeks—it is rich in a dark colored houey. The golden rod and the aster bloom in September and are good honey plants. From these alone in favorable seasons bees often gather enough for their winter supplies. Catnip I regard as one of our best honey plants. It commences to flower in spring and continues till frost. It will thrive and grow well along fences, hedges, &c., and might be planted to advantage in all waste places that cannot be cultivated in anything else.

The magnolia, varnish-tree, and privet afford good pasturage. These are at the same time fine ornamental trees. In planting trees along our lawns and in our yards, it is advisable to have an eye to utility as well as beauty.

I have experimented with Rocky Mountain bee-plant, mignonette, borage, sweet alyssum and many others highly recommended, and I am satisfied that it will never pay in this country to cultivate plants exclusively for the honey. The above plants will not grow in grass. The ground must be kept worked. and this labor will cost more than the honey they yield will be worth.

Our various fruit trees give the bees their earliest honey forage in the spring. In some seasons bees will work briskly on strawberry blooms. The raspberry (particularly the red variety,) and the blackberry are usually rich in honey. Mustard, white clover, buckwheat, corn and some others yield honey. White clover should be cultivated wherever it will thrive, and I believe it will grow in most any land that is not too poor and sandy. Bees collect pollen and probably some honey from corn-tassels—particularly of white flint variety. Buckwheat is a good honey-plant, but as the secretion of honey in this plant is so much influenced by atmospheric conditions, it often fails. Bees often gather pollen from the cotton-bloom, but I do not think they get any honey.

In this latitude our spring honey-harvest is all over by the last of June, and then we have none of any account until the fall flowers come in September. In order to keep up the working force of our colonies, it would be very desirable to have some forage to fill up this vacancy. There is a great room here for bee-keepers to observe and experiment.

Because we see a bee on a flower it does not prove that it is gathering any honey. In seasons of scarcity, bees may be seen working vigorously on certain flowers, while the amount of stores in the hives is growing less every day. It is very difficult to dertimine the worth of a plant for honey when there are only a few of the plants within range of the bees. When there are enough plants to afford constant employment for the bees, an approximate estimate of the yield may be determined by placing the hive on a pair of scales, and noticing the daily increase or loss. Of course due allowance must always be made for bad days.

The number of stocks of bees that can be profitably kept in a neighborhood must always be governed by the honey resources of the locality. Hence it will be folly for the bee-keeper to think of multiplying his colonies in a poor section to the extent of one who lives where there is an abundance of pasture. The nearer the apiary is located to the pasture, the better. It is supposed that the range of a bee for forage does not usually extend over a radius of two miles. The Italians will go much further than the blacks. Some say they have known them to go four miles. But this is traveling too far to lay up much surplus honey. With strong colonies, and properly constructed movable comb hives well managed, we can generally secure large yields of honey, if there is any in the flowers together.

Avoid an excess of drone comb by the presence of a queen in swarms where combs are to be constructed. As swarms having young queens seldom swarm that year, less drone comb is built in swarms having young queens.